EDUCATIONAL REVIEW

OCTOBER, 1896

I

THE ATTITUDE OF SCIENTIFIC THOUGHT IN GERMANY TOWARD THE DOCTRINES OF HERBART[1]

The editor of the EDUCATIONAL REVIEW has asked me to answer for American readers the question: What is the attitude of the scientific thought of to-day in Germany toward the doctrines of Herbart?

I shall deal with this question; but I must limit my task in a twofold way. In the first place, it is evident that here only the main currents of the scientific life of the present can be mentioned; and, second, only cursory reference can be had to German educators.

Comparatively slight reference is made to the educators, not because I hesitate to include them in the scientific world, but because information about them has been so widely spread by the EDUCATIONAL REVIEW, and by numerous other papers and books. It is well known beyond sea that the educational doctrines of Herbart have found, through the efforts mainly of Ziller and Stoy, such wide recognition that there is no other educational system within near comparison—neither that of Beneke, nor that of Fröebel, nor that of any modern philosopher upon whose theories a system of pedagogics has been built. Even in the case of those who affirm that their educational views are anti-Herbartian, there

[1] [Translated from the author's manuscript by Frederic L. Luqueer, Ph. D., sometime Fellow in Education, Columbia University.]

is seen, if we look closely, a strong tinge of the Herbartian theory which they could not escape. Among men of prominence, Friedrich Dittes alone remains at his old standpoint. He raises continual plaint over the downfall and destruction of German pedagogy; and, with almost a malediction, bids the Herbartians find for themselves and their teachings a home in foreign parts.

The other doctrines of Herbart can boast of no such influence. As Herbart himself, in his philosophy, stood a solitary thinker over against the host of philosophers inspired by Schelling and by Hegel, so, too, his disciples have never been able to rally about them any great following. To comfort themselves, and not alone to voice a general truth, they have often had to say, with Schiller's Demetrius: "The many, what are they? The many are fools! Wisdom belongs to the few."

In metaphysics Herbart was a pluralist. Analysis of what is given taught him that we must rest content with positing many simple existences; and must regard these as the ultimate ground of things, the permanent pole in the whirl of phenomena. Such a real was God; the soul, too, was such a real; and such reals were at the basis of matter.

Even during Herbart's lifetime his doctrine was found prosaic; and, what is more important, it was found unfruitful. It was of little avail for him to meet these objections by saying that his philosophy might, if people wished, be called prosaic; it was not his aim to be counted a poetic philosopher. They might even call it unfruitful, if they meant by that that his philosophy could not answer all questions; for his philosophy dealt only with the knowable; it was an unpretentious philosophy.

As it was with Herbart, so it has been with his followers—with Hartenstein, Drobisch, Thilo, Strümpell, Cornelius, Flügel, and others. In the face of the ruling philosophy of our time, monism, these men have made little headway. Monism, which on its evolutionary side has gained strong support from the natural sciences, is indeed

less " prosaic," and is much more " fruitful " than pluralism. Whether it may not in its present form deserve to be called a poetic philosophy is an inquiry that will repay thought. Almost with one voice Herbart's followers call it that. The late Lott alone, and after him Professor Th. Vogt, of Vienna, believed that even from the standpoint of Herbart's metaphysics there might be an approach to monism, through combining the many reals into one real, God. Not much attention, however, has been paid by the philosophic world to this attempt at developing Herbart's theory. Outside the small circle of the school that bears his name, aversion to his metaphysics is almost general. Nor have the metaphysical discussions of Ballauff in his *Grundlehren der Physik* yet been able to win the respect or attention of natural scientists; and the same may be said of Cornelius, the author of *Grundzüge einer Molekularphysik* and other metaphysical and scientific writings.

With his psychology, Herbart has fared somewhat better than with his metaphysics. At first glance we may wonder at this, since he linked his psychology so closely to his metaphysics. But we must remember that Herbart was recognized as the first, in a widely influential way, to oppose the old " faculty " theory, and to offer a psychology which did not need that theory. Furthermore, his psychology had a strong empirical side. This was made evident mainly by Drobisch, by his separation of Herbart's psychology from his metaphysics, and by making the exposition wholly empirical—according to scientific method, as he puts it. Thus, for a time, Herbart's psychology could be styled fashionable; and men who were specialists neither in philosophy nor in psychology, but who still had to deal with mental phenomena, gave it their attention. Especially was this true of alienists, who were, as early as 1840--60,—as they are again after a somewhat long interval,—attempting to establish psychiatry upon firm psychological ground. Besides Knop and Spielmann, Griesinger especially must here be mentioned. His widely read *Lehrbuch der Pathologie*

und Therapie der psychischen Krankheiten, a book which in its later edition is much prized even to-day, has a prefatory note explicitly stating that it is based upon the psychology of Herbart. After his time, the psychological treatment of psychiatry was for a long time discontinued, and so of course no reference was made to Herbart. Only in the recent fourth edition of Krafft-Ebbing's *Lehrbuch der Psychiatrie* are there distinct traces of Herbart. Lately, too, besides Kraepelin, who, for the most part, goes his own way, there is Ziehen, who, more than others, values psychology and especially the English association-psychology as an aid to psychiatry. In his book, now translated into English, *Leitfaden der physiologischen Psychologie*, he is fundamentally opposed to Wundt, but is very friendly toward Herbart, as indeed might be expected from his general attitude. His *Psychiatrie*, which appeared a short time ago, is based upon the views set forth in the *Leitfaden*. Very lately a now famous physician, the director of the Würtemberg State Insane Asylum in Zwiefalten, Dr. Koch, in his work *Die psychopathischen Minderwertigkeiten*, emphatically recommended to physicians the study of Herbart's psychology. And this is about all that can be said of the appreciation of Herbartian psychology by physicians of mental disease.

Herbart's psychology, just because of its empirical character, has met the wants, most of all, of the gymnasium instructors who had to teach introductory philosophy. It was under the influence of Bonitz that in Austria, especially, the Herbartian psychology, as presented in the long and widely used *Philosophische Propädeutik* of Robert Zimmermann, was for some time in the lead. This doubtless explains why the greater number and in part the best textbooks of Herbartian psychology—those of Lindner, Dorbal, Nahlowsky, Volkmann—came from Austria. Even yet in Austria the traces of that influence are quite apparent, although the amount of introductory philosophy taught has recently been much limited by law, and although voices are raised, as in the last philological congress at Vienna,

calling for a "modern psychology." In Prussia, introductory philosophy has for a long time had no prominent place; and, surprisingly enough, Bonitz has been able to effect little by his efforts on its behalf. Lately, that is since 1892, it has in fact disappeared from the school programmes, save that a little space is made for it in the hours set apart for German instruction. Under these circumstances, nothing can be said on Herbartian influence in the gymnasial curriculum; and in its absence there lacks the occasion for demanding a more "modern psychology."

What, in the next place, is the attitude of modern psychologists toward Herbart? Without exception they all speak highly of his great significance in the history of psychology; almost all agree with his critique of the threefold division of the faculties; but with almost the same unanimity they oppose the metaphysical grounds of his psychology, even when they do not deny altogether the relevancy to psychology of questions relating to the soul's nature. To my knowledge, the only one who agrees at all with the Herbartian metaphysics is Professor Fritz Schultze of Dresden, a man well known also in scientific circles. Though a supporter of Darwin's theory of evolution, he does approach somewhat, in his *Vergleichende Seelenkunde* (1892), Herbart's view of soul-reals,—which latter he calls "psychade,"—and in so far, too, as he posits a unity underlying psychical events.

The main current flows with Wundt. He will know nothing of a soul existing separately, but would avoid all difficulty by conceiving the spiritual and the material as two co-ordinate sides of one Something—sides never resolvable one into the other. It is only under this assumption, Wundt thinks, that that race-psychology can be defended which Lazarus and Steinthal have developed upon Herbartian principles, and which on its empirical side has won pretty general assent. Flügel, however, opposes this opinion of Wundt; and, to my mind, does so successfully.

That part, also, of the Herbartian psychology which is

distinctively empirical has many opponents. While, in the soul-life, Herbart would affirm the primacy of ideas, Wundt would give this place to the will; and others, again, to feeling. I cannot enlarge here upon this point. But two causes must be mentioned which more than others have led many to speak somewhat disparagingly of Herbartian psychology.

One is, that Herbartian writers have almost totally neglected the psychology of feeling. Nahlowsky has contributed the one book on this subject of some importance. But Theobald Ziegler, for instance, calls it patronizingly "a very good little book." Nor, in fact, has "modern psychology," despite the effort of James, Lehmann, Lange, Ziegler, Sergi, and others, produced much that is accepted generally concerning the essential nature of the emotional life. So much, however, has been gained, that the Herbartian conception, held also by Nahlowsky, that feeling is only the inner accompaniment of the now obstructed, now free, course of ideas, is no longer thought adequate.

The other cause is that the Herbartians have failed properly to recognize the results of experimental psychology. The most comprehensive attempt at appreciation, though by no means exhaustive, has been made by Ballauff in an introductory essay. Flügel, though he is most advantageously placed for developing this side, has contributed nothing but review articles. The new edition, by Cornelius, of the large work of Volkman is but half satisfactory, and that only in parts.

The general opinion, then, in a few words, is that the psychology of the Herbartian school is antiquated. Doubtless this judgment, taken all in all, is correct; but I doubt if those are right who mean by it that it is inherently impossible for the better elements of that psychology to be kindled to new life.

I now come to the question, what is the present status of Herbart's ethics? The ethics, confessedly, is quite separate from all metaphysics and psychology, so that it can be

followed by one who in theoretical philosophy goes other ways than Herbart. His following, nevertheless, is not numerous. Nowadays we are loth to divorce the Should from the Is; for, under the influence of Darwinian evolution, we love rather the monistic conception which sees all as an outgrowth of the one. This latter conception rules—notwithstanding the fine exposition of Herbartian ethics as given by Herbart himself, by Hartenstein, Allihn, Nahlowsky, Ziller, and others. The work of Steinthal is more in favor. He, it is true, starts from Herbart's standpoint; but the ethical ideas which Herbart deduced in a purely speculative way, are by Steinthal given a more empirical development; and that not only, as might be expected, in their phenomenal form, but in their very essence.

To touch, now, briefly upon the various sciences. A number of theologians are favorably disposed to the ethics of Herbart because the supremacy of the moral law over all natural scientific and theoretic philosophic speculations is not for a moment disputed by him. There is not lacking opposition, however; inasmuch as the ethics of Herbart is at basis a purely philosophic discipline, independent of any religious premise; religion having to do with the moral character only while in process of becoming. Still, a recent work of Pastor Flügel, *Die Sittenlehre Jesu*, has been well received by theologians.

Among jurists, the Herbartian ethics has had but one noteworthy champion, Geyer, professor of criminal law in Munich. Problems of legal philosophy have, it is true, been treated from the Herbartian standpoint, in the *Zeitschrift für exacte Philosophie*, which recently has united with the *Pädagogischen Studien* of Rein to form the *Zeitschrift für Philosophie und Pädagogik;* and in special treatises by theologians, as Thilo and Fienemann, as well as by Ziller, whose whole nature made him a jurist. But it was Geyer who brought the ethics of Herbart into prominence in the legal world, by his lectures, by his introductory essay on the philosophy of law in Holtzendorff's widely used *Encyklo-*

pädie der Rechtswissenschaft, by the article in that encyclopedia on penal law, and by his polemic against co-scientists like Ihering, who, in his *Kampf ums Recht*, had attacked Herbartian ethics. In the latest edition of Holtzendorff's encyclopedia, the introductory essay on the philosophy of law is rewritten by the editor, Professor Merkel of Strasburg; although the outline of the history of legal philosophy and the article on penal law remain as contributed by Geyer.

Metaphysics, ethics, and psychology form with Herbart the foundation of his religious philosophy. This, it is true, was not fully developed by him, but even as early as the beginning of 1840 it had found comprehensive exposition by the philosopher Drobisch. Besides the philosophers Ballauff and Ziller, there have been philosophically inclined theologians, as Taute, Hendewerck, Thilo, Allihn, Flügel, Schoel, and others, who have sought to complete particular phases of this side of Herbart's work. But the great majority of the theologians stand aloof. Some feel disturbed by that religious philosophy; they even think it dangerous, and so will not hear of Herbart. Others dislike it because, with Herbart, God is only a real, side by side with other reals—which is metaphysical pluralism. Favoring as they do the old and new monistic philosophy, they see God as the one original existence, from whom everything else has proceeded. On the liberal side there are Biedermann, Lipsius, and Pfleiderer; on the positive side, Ebrard, Dorner, and Frank. They find the monistic conception less prosaic and much more fruitful than the Herbartian view. But Flügel, in his book *Die spekulative Theologie der Gegenwart*, endeavors to show to these theologians, that if the true implication of their fair-sounding words be sought, pantheism would be the result; in which a personal God, the basal supposition of religion, is denied; and in which man is not accounted a personal, responsible being. Nor would there be place for personal immortality. A third tendency, represented chiefly by

Albrecht Ritschl, would have nothing to do with metaphysics in religious philosophy. And against this tendency also the indefatigable Flügel is up in arms. In the book just mentioned, and in the recent *Ueber Ritschl's philosophische Ansichten*, he contends that metaphysics must enter into religious philosophy, and that Ritschl himself unwittingly attests this, inasmuch as he deals with metaphysical conceptions, and starts on lines of metaphysical thought, which unfortunately he does not pursue to the end. As regards the charge of unfruitfulness, Herbart and his followers have often declared that it was out of human power to formulate a dogmatic philosophy that could explain everything, including even the Trinity; that knowledge had its limits, and that religion was needed as its complement; that they willingly resigned monistic dreams and fantasies to others who might therewith "explain" what they could; as for them, they were satisfied to stand reverently silent before the revelations of positive religion. Whether Thilo and Schoel are right in prophesying that philosophically inclined theology will in the future be more and more influenced by Herbart, remains to be seen; meanwhile such hope is small.

The above review has shown that the other phases of Herbart's thought have by no means gained the recognition won by his pedagogics, though the latter, accurately speaking, is wholly independent of no one of the former. The causes of this remarkable phenomenon are various. They are to be sought partly in the nature of the case and partly in external circumstances.

Psychology, one science upon which pedagogics rests, is itself based by Herbart, among others, upon metaphysics; but Drobisch has shown plainly that the psychology is to such a degree independent of the metaphysics that the former can be accepted by one who adopts speculative views that are other than Herbartian. In fact, many of the supporters of Herbart's pedagogics are by no means friendly to the meta-

physical part of his psychology, but content themselves with the empirical part of it. And even here, as we have seen above, there is much debate—the theory of feeling, particularly, being strongly opposed. In the next place, we find that the teachers of the Herbartian school have almost exclusively busied themselves with developing methods of instruction. For such development there is needed chiefly the theory of ideas; and this has the fewest opponents. As regards the emotions and the will, it is important to observe that Herbartian teachers are to work upon these only through the shaping of ideas. Whether or not this means has heretofore been thoroughly and comprehensively tried, may be said to remain undecided.

The other foundation-science of pedagogics, ethics, does not, in its speculative form, seem so essential to the immediate needs of education. What is good, and so, what ought to be, is evident enough, without speculation, to meet educational wants, at least those of the elementary school. About this there has not been much difference of opinion; at any rate there has been no emphatic avowal of it. Since, then, the ethics of Herbart, in its speculative character at least, has had no appreciable influence upon his pedagogics, no one could take offense at the latter because of disagreement with the ethics. And questions, too, of religious philosophy have thus far been as good as excluded.

Among the circumstances fortunate for the spread of the pedagogics of Herbart was the one that in Germany there were really only two chairs of pedagogy, those in Jena and in Leipzig; and these are filled by the Herbartians, Stoy and Ziller. Both were men of scientific skill and of unflagging zeal; and what they theorized upon in the lecture-room, that they sought to carry out in the practice-school. Thus their exposition of Herbart had, in the minds of their hearers, quite another result than otherwise might have been the case, if the pedagogical lectures had been delivered by philosophy professors as a side issue, lightly entering one ear and as quickly leaving the other. It

was of importance, also, that most of the auditors from Thuringia and Saxony were school teachers who, because of merit, had been sent by legal provision to the university. The majority had behind them several years of practical service; they were attending the lectures not without self-sacrifice; they were in the university town not merely to enjoy student life, but to do downright work. For most of the hearers of Ziller and of Stoy, the *Verein für wissenschaftliche Pädagogik* became later a center for carrying out the work in a systematic way. Thus by the co-operation of mostly favoring forces there has arisen a structure of pedagogical doctrine, which, however much amendment as to details it may need, stands as regards its organization of school practice beyond comparison with others. Even opponents must acknowledge that the Herbartians have been the first to show, halfway at least, how a science of pedagogy must be built; and if ever another system should arise founded upon either Beneke, or Lotze, or Wundt,—of which at present there is little prospect, despite the commanding position of many of these men,—if such a system should ever arise, it will have certainly been modified by the mighty influence of Herbart and his school.

The pedagogy of Herbart has gained the attention of men who have little to do directly with school matters. The theologian values, at least, the moral and religious earnestness, which it would have permeate the entire course of education. The historian shares its belief that youth, in order to understand the present, must be led through the developing culture-history of the race. Physicians and scientific investigators praise its adaptation to the nature and to the growth of the child-mind. The philologist must sympathize with its aim to unite the teaching of word with thing. And all admit, or should admit, that the Herbartian school is eagerly following the splendid example of Ziller, in that it watches closely the progress of the sciences and seeks to use their advances to the furtherance of true education.

The past instructs the future. What is its message to us teachers who walk after Herbart? Whoever can accept the philosophy of Herbart as a basis for his pedagogics, let him hasten to bring the pedagogical superstructure into firm bond therewith. That will assure permanence and will help to a complete organization of the system. Whoever believes that Herbart's metaphysics is no true basis at all, let him value at least the experimental truth of Herbart and his school. And let us all keep open eye to receive and to utilize in our educational work the results of modern psychology and whatever of culture-material is offered by the other sciences.

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II

THE SOCIAL MISSION OF THE PUBLIC SCHOOL

What is it that, as taxpayers, as parents, as members of school boards, as teachers, we are trying to do for the children and youth committed to our charge?

Are we trying to make them docile and loyal members of some church or synagogue on earth, and to fit their souls for heaven? This is a legitimate end of education. In the course of human history more time has been devoted, more money given to education under the influence of this motive than under the influence of all other motives combined. This motive reared the mediæval monastery and the mediæval university; founded nearly every academy and college in Puritan New England; has been the pioneer of education in the denominational institutions of the West; is planting parochial schools in all the manufacturing centers throughout our land to-day. This is the ecclesiastical ideal. We respect what this ideal has done for education in the past; we ought to respect what it is striving to do to-day. In view of the great diversity of religious faith among our people, this ideal, however, is one which the public school cannot entertain. The common school must deal with matters which are common to all. But religious creeds and ceremonies are the very things, of all others, in which at present there is least agreement and greatest diversity. However well this ecclesiastical ideal may work in communities wholly Puritan, like early New England, or wholly Catholic, like portions of Ireland and Canada to-day, it is utterly impracticable for the common-school system of the United States to-day. The ecclesiastical ideal, then, we may consider counted out.

Do we then support the public school for the sake of training intelligent voters? Why, half the scholars in these

public schools, unless there shall be a constitutional amendment enlarging the basis of suffrage, will never vote at all. And then do we pretend that Latin and French, and physics and chemistry, and the twenty or thirty branches taught in the high school are necessary to fit a boy to cast an intelligent vote? We have long since left this motive far behind in the liberality of our provision for public instruction. The political motive is not large enough to explain our devotion to our public schools.

Do we then support the public schools in order that the children may be trained to earn their own living, and thus not become burdens upon the charity of the state? We frequently hear that motive assigned. But we all know perfectly well that not half the subjects taught in our public schools have any direct bearing on the ability of the boys and girls to earn a livelihood. We have gone far beyond the industrial ideal of public education.

Let me try once more. Do we support the public schools because we wish that these children, who are to be our neighbors and fellow-citizens, shall be intelligent, self-respecting, public-spirited neighbors and citizens; that they shall be good husbands and thrifty wives; that they shall be wise fathers and mothers; that they shall be interested in what is noble and pure; enthusiastic in support of what is generous and just; that their homes shall ring with healthful laughter and happy song; that their work shall be wrought in integrity and their recreation shall be healthful and uplifting? Is anything less than this the ideal we really cherish? Will anything lower or narrower justify the splendid efforts we are making for public education?

I am sure there are few who will express themselves contented with the ecclesiastical, the industrial, or the political ideal. Without our knowing it, the social ideal of an intelligent, full, free, happy, human life for every boy and girl born or brought into our midst has gained possession of our minds and hearts.

General Francis A. Walker, speaking of the public school,

says, " Here we reach an instance of an impulse almost purely socialistic for the enlargement of the functions of the state. It is true that the plea of a service to government, in the way of reducing violence and crime through the influence of the public schools, is often urged on this behalf; but I, for one, do not believe that this was the real consideration and motive which, in any instance, ever actually led to the establishment of the system of instruction under public authority, or which, in any land, supports public instruction now. Indeed, the immediate effects of popular instruction in reducing cr[illegible]e are even in dispute. In all its stages this movement has been purely socialistic in character, springing out of a conviction that the state would be stronger, and the individual members of the state would be richer, and happier, and better, if power and discretion in this matter of the education of children were taken away from the family and lodged with the government. Of course, it needs not to be said that this is a socialistic movement which deserves the heartiest approval."

We now have the social ideal before us in distinction from the ecclesiastical, the industrial, and the political. If any one of my readers can be contented with the narrower ideals of churchman, or econ[illegible]ist, or politician, nothing that I have to say will appeal to him. Where ideals are radically opposed, it is useless to talk of methods and policies. If you care for nothing but the " soul " of your child; if you value nothing but the wages he can earn; if you think of nothing but the vote which he may cast; if you look down upon the great mass of children as doomed to lives of dull drudgery and unenlightened toil; then in the name of all that is progressive, all that is hopeful for the future of humanity; in the name of all who love little children and have faith to believe that every child is capable of noble manhood or womanhood; in the name of the social spirit that animates the modern world, I bid you farewell.

Such as love children; such as believe in the possibility of a joyous and noble manhood and womanhood for every man

and woman, regardless of station or occupation; such as look for a unity of spirit amid diversities of service in the members of society; such as hope to see common sources of enjoyment shared by persons of very different degrees of wealth; such as believe in a socialism of the intellect and a communism in the enjoyments of the mind—such, and such alone, I ask to consider with me the social mission of the public school.

This world in which we live is established through wisdom; founded on truth; governed by law; clothed in beauty; crowned with beneficence. The business of the school is to open the mind to understand that perfect wisdom; to appreciate that wondrous truth; to respect that universal law; to admire that radiant beauty; to praise that infinite beneficence.

Humanity, of which we are members, has brought forth great men and glorious deeds: it has formed languages and reared civilizations; it has expressed its ideals and aspirations on canvas and in stone; it has uttered its joys and sorrows, its hopes and fears, in music and poetry. The province of the school is to interpret to the scholar these glorious deeds of noble men; to open to him the languages and civilizations of the past; to make him share the pure ideals and lofty aims of artist and architect; to introduce him to the larger world of letters and the higher realms of song.

Nothing lower than this interpretation of nature and humanity to man can be accepted as the end of education. To make one at home in the world, and friends with all which it contains, is the object of the school. The forms of natural objects, the laws of life in plant and animal, the principles of mathematics and physics, the languages which nations speak, the literature in which they have expressed their sorrows and joys, their hopes and fears, their achievements and aspirations; the laws of economics, the institutions of society, the insights of philosophy, the ideals of ethics and religion—all these things are man's rightful heritage, and it

is the aim of education to put man in possession of this rich inheritance.

It is the attempt to reconstruct the common schools with a view to the realization of this social ideal of education which, consciously or unconsciously, is behind the various changes in programmes, methods of instruction, and principles of administration which, taken together, constitute what is called the new education. Viewed separately, out of connection with this controlling aim, these innovations doubtless look like whims, fads, and excrescences. Viewed in the light of their common purpose, and in their relation to what I have called the social mission of the school, these changes are seen to be the indispensable means for the accomplishment of this social ideal of education.

Let me now leave this ideal for a while and consider some of these means by which the new education is striving to realize it.

First among the new features of our new schools comes physical culture. In the earlier stages of human evolution man was compelled to struggle with his physical environment; and in the struggle the physically weak were driven to the wall. Now, in our highly complex social conditions, the struggle for existence is not so much that of man against nature as that of man against man. Mental rather than physical quality, nerve rather than muscle, counts for most in the struggle for existence which goes on to-day. Hence the physical, being less immediately essential, and not being kept up to its previous standard by the necessity to wrest the means of subsistence from the forest and the furrow, has been suffered to decline. This artificial premium on nervous and mental force has stimulated the development of the mind at the expense of the body. But nature cannot be cheated long. Already she is beginning to enforce her penalties. Insomnia, dyspepsia, nervous prostration, heart-failure, insanity; these are the universal tokens of outraged nature's righteous wrath. Into this fierce competition, into this high nervous tension, the boys and girls of our schools must

go. It is the duty of the school to shield their early years from all needless strain of anxiety and worry; to prohibit all forms of overwork; and to insist that in these formative years the body shall at least keep pace in its development with the mind. To this end the introduction of physical culture is a necessity.

Wherever the experiment has been fairly tried and tested, its results abundantly justify the expenditure of money and time involved. At Bowdoin College we require every student to take systematic exercises four days of every week in the winter months of each year of the course. We spend as much money on this as on any department of the college, and a comparison of the rank of students in scholarship and in physical development shows that the two lines of development tend remarkably to coincide. The majority of those who were first-class in study were first-class in physical development; the majority of those who were second-class in study were second-class in physical development; and in the third class the coincidence between poor physical development and inferior mental power was remarkable. The positive and decided benefit of physical exercise to growing students is strikingly shown by tables recently published by the Department of Physical Training in Wellesley College, giving the relative changes in physical development of three classes of girls in that college from November, 1892, to May, 1893. The first class consisted of forty-three members of class crews; the second class was made up of twenty students who took five months of Swedish gymnastics in the gymnasium; the third comprised twenty students who had no physical training during this period. In girth of chest, those who rowed gained 1.04 inches; those who took gymnastics gained 1.1 inches; those who took no training gained nothing.

In capacity of lungs, those who rowed gained 20 cubic inches; those who took gymnastics gained 14 cubic inches; those who took no training lost 2 cubic inches. In strength of back, those who rowed gained 20 pounds; those who

took gymnastics gained 20 pounds; those who took no training lost 16 pounds. In depth of chest the rowers gained .4 of an inch, the gymnasts .3, and those who took no training lost .1 (one-tenth). In breadth of shoulders the rowers and those who took gymnastics alike gained .7 of an inch, while those who took no training gained nothing.

The strength of a chain is the strength of its weakest link. The weight and substance of a tool are as important as the keenness of its edge. If the school is to fulfill its social mission of the training of boys and girls for healthy and effective manhood and happy and serene womanhood; if it is to equip them to stand the strain of business competition and to bear the burden of household care, it is bound to train sound bodies as the basis of sound minds.

Manual training is an essential feature of the social mission of the common schools. It unites mind and body in harmonious development and healthful exercise. Those who are to be artisans need it, if industrially we are to keep pace with the manufacturing nations of Europe in the skill of our workmen and the artistic finish of our manufactured goods. The surgeon, the dentist, the artist all need it for their professions. But they need it most who will never use it in these special ways. No man can thoroughly appreciate a good thing made by another, unless he has some faint conception of how to make the thing himself. Manual training is essential to elevate the taste of the consumer as well as to increase the skill of the producer. It is necessary as a common bond of appreciation and fellowship between rich and poor. This is its great social mission. Says Felix Adler, " Twenty-five years ago we fought to keep this people a united nation. Then was State arrayed against State. To-day class is beginning to be arrayed against class. The chief source of the danger, I think, lies in this, that the two classes of society have become so widely separated by difference of interest and pursuits that they no longer fully understand each other, and misunderstanding is the fruitful

mother-source of hatred and dissension. This must not continue. The manual laborer must have time for intellectual improvement. The intellectual classes on the other hand must learn manual labor; and this they can best do in early youth, in school, before the differentiation of pursuits has yet begun."

Manual training calls into eager and enjoyable activity the whole power of the child; and thus crowds out the baser passions that root themselves in idleness and inactivity. It awakens self-confidence and dignity; and founds the sense of personal property on its true foundation in labor performed. By giving a tangible and interesting object to work for, it stimulates attention, concentration, perseverance, and continuity of effort as no formal exercise of abstract will could ever do. It awakens latent constructive and artistic powers which would otherwise become atrophied by disuse. It stimulates invention, and cultivates taste. In the power to labor diligently and patiently with hand and eye it lays the firm foundation for that patience and industry of mind on which all worthy intellectual achievements rest.

Another condition essential to the social function of the public school is flexible programmes, with frequent irregular promotions, and with examinations which test the power to do intellectual work rather than capacity to remember information.

All children are not alike, either in their mental tastes and aptitudes, or in the rapidity with which they can acquire knowledge, or in the ability to recite what they have learned. There should be as much opportunity as possible for the individual aptitudes of the pupils to find exercise and expression. Broadly speaking, all minds are divided into two classes, the literary and the scientific. Some boys will do splendid work in the laboratory who can get very little from the library. Some who shine in the library are utterly stupid in the laboratory. The good mathematician is often a poor linguist; and frequently the good linguist is a wretched mathematician. As soon as possible, the children should be

allowed to follow the native bent of their own minds; selecting for study the things for which they are best fitted. This principle of election has won its way in all our colleges. In the shape of two or three parallel courses it prevails in our high schools. The time is not far distant when a limited number of substantial courses will be offered by the high school to all the pupils, and when each pupil will be allowed to select, with the advice of parents and teachers, his own course; and the same diploma will be granted to all who have completed satisfactorily the required number of courses. Thus, instead of trying to make alike the boys and girls whom nature has made unlike, we shall rather endeavor to develop the unlikeness and individuality of our pupils, in continuation of the good work which nature has begun.

Frequent irregular promotions are essential to the best development of the individual. I owe two years of my intellectual life to the fact that, in the city in which I was attending school, I was allowed to go through the two years' course of the intermediate school in one year and the two years' course in the grammar school in one year; so that I entered the high school and began the study of Latin and algebra at the age of eleven. The average boy can be just as well prepared to take up these studies at the age of eleven or twelve, as at the traditional age of fourteen or fifteen.

Examination should consist, not in a test of a student's power to disgorge th crude materials which he has hurriedly crammed; but rather a test of his power to apply the principles which he has gradually assimilated to the problems with which they are concerned. In actual life the test of efficiency is not, " How much information can you repeat by rote without looking at your book? " but it is, " What problems can you solve, what presentation of a case can you make, with all your books and tools before you? " The time is not far distant when we shall no more expect a pupil to dump upon an examination paper all that he has learned during a term than we shall expect him to regurgitate all the food that he has eaten during the same length of time. We

shall expect him to keep a record of work done throughout the term, which shall be open to inspection; we shall expect him to show his ability to comprehend statements and solve problems, and discuss questions which would have been altogether beyond him at the beginning of the term.

The ideal is not a cast-iron one, a programme over which every scholar must go at the same rate, and from which all shall show the same results, but a flexible programme, in which each shall study the subjects for which he is best fitted; over which the bright scholar shall pass quickly, and the dull scholar slowly; and from which each scholar shall show some growth of power and quickening of intelligence and interest peculiar to himself.

The introduction of modern languages, and physical science, and advanced mathematics into the grammar schools for pupils at the age of from eleven to thirteen is in the interest of the more perfect accomplishment of its social mission by the public school. To keep scholars grinding away at the refinements of arithmetic and English grammar year after year, at this most enthusiastic and susceptible period of life, is to disgust them forever with all that has the name of education. By the time a boy is eleven years old he may have all of these matters that will ever be of any value to him; and to keep him grinding away at them for two or three years longer is a wicked waste of the most precious intellectual opportunities of his whole life. Then, if ever, he should have a chance to learn his own language by the fascinating and fruitful acquisition of a language other than his own. Then he should fix forever his arithmetic by carrying the principles of it up into algebra, out into geometry, and making application of it all by weighing and measuring and calculating the forms and forces with which physical science is concerned. Emerson has said that no man ever does anything well who does not come to it from a higher ground. The surest approach to a thorough comprehension of English grammar is through Latin or French. The best way to retain arithmetic is to preserve it in the form of algebra.

The best way to assimilate what we have learned already is not to keep digging away at it after all its freshness has been worn out; but to go right on using the power acquired in mastering one subject for the conquest of another.

The introduction of physical science, first in the form of object lessons and familiar talks, and then in systematic study as a substantial subject, before the great mass of children leave school altogether, is an important element in the social mission of the school. There is a time in the life of almost every boy and girl when there is a keen and eager interest in natural objects and natural law. Let the student then be trained to observe things at first hand; to weigh and measure, to perform experiments, to keep a record of things seen and done, and he will thus acquire a lifelong interest in nature. This is equally desirable for the great majority of children who leave school for work, and for the few who go to college. To those who go to work at once, it gives a more intelligent interest in the familiar objects with which they have to deal, and a wider companionship in the world of which they form a part. To those who go to college it gives a training in accurate observation, and a facility in experiment which lays a foundation for the accurate scientific studies of their college course. Now, the great majority of boys come to college with their powers of observation, their natural interest in natural phenomena, stunted and atrophied by prolonged disuse, and crowded out by the mere book-learning on which our narrow lines of requirement have forced them to concentrate their efforts. Scientific studies pursued by scientific methods are an element of training for the largest and truest enjoyment and usefulness of life which no system of education can omit which will fulfill its social mission.

What observation and experiment and the methods of the laboratory are in relation to nature, that good literature is to humanity.

Literature presents the ideal of human life as it has expressed itself in the great institutions of family, church, state,

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and society. It clothes these ideals in the flowing robes of the imagination and adorns them with the jewels of well-chosen words, set in rhythmic and melodious forms. To feed the mind of youth on the ideals of a noble and elevated human life; to win his fidelity to the family through sweet pictures of parental affection, and filial devotion, and pure household joys; to secure his loyalty to the State by thrilling accounts of the deeds of brave men and heroic women; to make righteousness attractive by pointed fable, or pithy proverb, or striking tale of self-sacrificing fidelity to the costly right against the profitable wrong; to inflame with a desire to emulate the example of patriot, martyr, and philanthropist; this is the social mission of good literature in the public schools. To interpret this literature, so that it comes home to the boys and girls; so that they see reflected in it the image of their own better selves; so that they carry with them its inspiration through all their after lives; this is the duty and the privilege of the public school. It is not of so much consequence what a boy knows when he leaves school, as what he loves. The greater part of what he knows, he will speedily forget. What he loves he will feed on. His hunger will prompt his efforts to increase his store. The love of good literature—a genuine delight in Longfellow and Whittier, Lowell and Tennyson, Hawthorne and Scott, Shakspere and Homer—is, from every point of view, the most valuable equipment with which the school can send its boys and girls into the world.

For the same reasons drawing and music should be prominent features of the public-school curriculum. To what purpose does the artist "re-create the glory of the world," and the musician "re-echo its loveliest songs," unless there be developed in the great mass of his fellow-men the power to appreciate the beauty and the harmony of sound. It is not to make artists and musicians, it is to create appreciation of art and music, and to make these the ministers of gladness and hope and cheer in every humblest home, that the school should teach its pupils to draw, to model, and to sing.

It places within the reach of every child sources of innocent and wholesome pleasure which riches cannot give nor poverty take away.

I have endeavored to present, first, the motive or ideal of the new education, which is nothing less than the fitting of each individual member of society for a useful and enjoyable participation in all that is purest, noblest, and highest in our common intellectual and social life. I have pointed out some of the more important features on which the new education insists as essential to the accomplishment of this, its social mission. Physical and manual training; flexible programmes and rational examinations, and frequent promotions; science and literature, drawing and music; kindergarten methods to start with, and opportunity for the individual to determine his own course with reference to individual aptitudes and future occupations—these are some of the things which the new education finds essential to its social mission.

The present is a time of crisis for the public schools. I do not refer to political dangers, either such as may come from partisanship in the attempt to use school offices as party spoils; or to reduce appropriations from motives of short-sighted economy; serious as these evils must always be in a democratic government. I do not refer to ecclesiastical jealousies and antagonisms, disastrous as these may become wherever diversities of religious faith prevail. Both these dangers the public school will safely pass, for the properly conducted public school is so manifestly superior to anything that either partisan politics or sectarian ecclesiasticism ever can furnish, that its inherent superiority will continue in the future as in the past to vindicate its claim to popular support.

The only thing that any institution really and permanently has to fear is the substitution of something better in its place. Now there is something better than the public-school system as it exists to-day. A school system where the promotion is frequent, and the programme is flexible, and instruction is personal and individual, and examination is

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rational and natural, and where the great topics which call out youthful enthusiasm and minister to intellectual and social delight are introduced as early and rapidly as they can be appreciated and enjoyed; a school system like that is infinitely preferable to a system where everybody must take the same course in the same time in the same way; and be worried once in so often over the same arbitrary and formal examinations, and waste the same number of precious years in the same dreary and monotonous drudgery upon subjects which have long since lost all interest and charm. The wealthy and intelligent portion of the community are beginning to understand that the public school of to-day is not the ideal school; and that fact constitutes the crisis of the hour. Shall this demand of the intelligent and wealthy parents be met by private schools to which the children of the more favored classes shall be sent, and by leaving the public schools exclusively for the poorer children whose parents cannot afford to send them to a better school? The moment that policy is permitted to prevail, the public school receives a more fatal blow than it was ever in the power of politician or ecclesiastic to inflict. The public school will conquer every inferior rival. Its rivals hitherto, both private and parochial, have been hopelessly inferior to the public school; and in spite of all opposition, the public school has thus far come out of every conflict magnificently triumphant. Unless the public-school system itself responds at once to the new ideal, it will, ere long, find itself confronted for the first time by a rival whose superiority to itself will render it really formidable.

The public school is the institution which says that the poor boy, though he may eat coarser food, and wear a shabbier coat, and dwell in a smaller house, and work earlier and later and harder than his rich companion, still shall have his eyes trained to behold the same glory in the heavens and the same beauty in the earth; shall have his mind developed to appreciate the same sweetness in music and the same loveliness in art; shall have his heart opened to enjoy the same literary treasures and the same philosophic truths; shall

have his soul stirred by the same social influences and the same spiritual ideals as the children of his wealthier neighbors.

The socialism of wealth, the equalization of material conditions, is at present an idle dream, a contradictory conception; toward which society can take, no doubt, a few faltering steps, but which no mechanical invention or constitutional device can hope to realize in our day. The socialism of the intellect, the offering to all of the true riches of an enlightened mind and a heart that is trained to love the true, the beautiful, and the good; this is a possibility for the children of every workingman; and the public school is the channel through which this common fund of intellectual and spiritual wealth is freely distributed alike to rich and poor.

Here native and foreign-born should meet to learn the common language and to cherish the common history and traditions of our country; here the son of the rich man should learn to respect the dignity of manual labor, and the daughter of the poor man should learn how to adorn and beautify her future humble home. Here all classes and conditions of men should meet together and form those bonds of fellowship, ties of sympathy, and community of interest and identity of aim, which will render them superior to all the divisive forces of sectarian religion, or partisan politics, or industrial antagonisms; and make them all contented adherents, strong supporters, firm defenders of that social order which must rest upon the intelligence, the sympathy, the fellowship, the unity of its constituent members.

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III

THE EDUCATION OF THE DEAF AND DUMB

According to the census of 1890 there were in the United States 41,283 deaf and dumb persons, in addition to 79,895 persons "so deaf as to be unable to hear loud conversation, but able to speak."[1] Though the census enumerators probably made few errors in their classification, we shall find that the distinction here indicated is misleading. A deaf person who had lost the power of speech as the direct result of an accident would not be a deaf-mute in the proper sense of the term, and on the other hand persons are taught to speak who nevertheless share the physiological defect by which the deaf and dumb are really distinguished from the rest of mankind. From the physiological or psychological standpoint a deaf-mute is "a person unable to speak from auditory cues." The meaning of this will become apparent as we advance.

In addition to this comparatively large proportion of the community shut off from ordinary intercourse with their fellows, it has been asserted by various European and American authorities that nearly twenty-five per cent. of the children in the public schools whom they tested have "defective" hearing; and the Prussian minister of education, who disputed the results arrived at by the physicians who conducted the tests, admitted that slightly more than two per cent. had hearing poor enough to be noticed, without tests, by the pupils themselves and their teachers.[2]

[1] Eleventh census, vol. ii.

[2] See the excellent paper on "The Hearing of Children," by Oscar Chrisman, in *The pedagogical seminary*, vol. ii. No. 3, 1893. I think that the dispute between the Prussian minister Von Gossler and the medical examiners may be easily explained. The lenses of the eye can be tested by mechanical means, with results in terms of absolute physical measurement. If parallel rays of light do not focus

A good deal of the deafness in the public schools is due to mechanical obstructions of the ear and throat which a surgeon should be called upon to remove; very much is due to catarrh and other diseases, for which imperfect methods of ventilation and other defects of construction and management in the schools are responsible; much is due to infantile diseases; and much to uncleanliness, dampness, and other unsanitary conditions in the homes of the pupils. Whatever the cause of their deafness may be, it is a remarkable fact that pupils in the public schools who are hard of hearing rank lower on the average in their classes than their comrades, and that many a child has a dull face and a stupid manner solely because he does not readily hear what is said to him and around him, while neither he nor his teacher may realize the real source of his apparent stupidity and unresponsiveness. With such a child, it is not remarkable that the continual strain of listening (often from a back seat) to matter that at best is not particularly interesting should soon lead to fatigue and listlessness; that failure to keep up with his fellows should breed discouragement and indifference; that misinterpretation of little pleasantries should cause moroseness, and that occasional punishments and more frequent

upon the retina of an eye paralyzed by atropine, no one will deny that the lens is defective; but if one person sees better in the dark than another, it might not be right to conclude that the retina of that other was defective. The ear, like the retina and unlike the lens of the eye, has no purely mechanical function to discharge, and cannot be measured by a purely mechanical ideal. When a physician finds great differences in the hearing of children, his first impulse is to find the average ability of those tested, and to make that the standard. About half the school necessarily falls below a standard found in this way; but the physician wishes to be conservative, so he gives half, or some other more or less consciously chosen proportion, of the "defectives," the benefit of the doubt, and reports the rest. Whatever the psychosis of the individual examiner may be, the use of the term "defective" is necessarily arbitrary, and a person who has taken the pains to make formal tests of deafness is bound to find at least some cases that were not noticed without a test. The real significance of the results found by the tests lies partly in a certain unexpected amount of correspondence between poor hearing and poor class-room work, and partly in the enormous individual differences discovered. It is not unusual to find some children in a school who can hear a watch five times as far as others. Very little is said about the shape of the rooms in which the tests were made; but such a difference in the open air would indicate that the hearing of one child was *twenty-five times as sensitive* as that of the other.

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rebukes, for disobeying commands which he only imperfectly understood, should end at last in vindictiveness.

The condition of a totally deaf child, isolated in a world of sound, is much more unfortunate. Except from his parents he cannot expect much enduring sympathy, linked with patience enough to make it serviceable to him, and the mutually exasperating and discouraging effects of repeated failures to communicate with others cannot but leave him devoid of many of the commonest ideas, with blunted sympathies and only half-developed instincts; making strange noises and peculiar gestures in a world half whose interests he knows he cannot share. Surely we cannot wonder that such children are often passed with a shudder and thoughtlessly mistaken for idiots.

Rough popular ways of thinking are seldom accurate. From the fact that idiots are dumb we have no right to infer that deaf-mutes are idiots. Tables published by various institutions for the training of deaf-mutes show that, if only a few of their graduates have distinctly intellectual employments, most of them are at any rate earning a living in a thoroughly independent and respectable manner.

But rough popular ways of thinking are seldom wholly erroneous, and unfortunately in this case the popular classification is only too often correct.

To be sure, this is a subject upon which authorities do not all agree, for while Dr. E. M. Gallaudet, president of the National College for Deaf-mutes at Washington, maintains "what has long been known to teachers of experience, that deaf children, in addition to their principal disability, are often found to be lacking in mental capacity, in the imitative faculty, in the power of visual or tactual perception, and in other respects,[3] Dr. A. G. Bell seems to draw a sharp

[3] *Fallacies concerning the deaf, and the influence of these fallacies in preventing the amelioration of their condition.* By Alexander Graham Bell, Ph. D. An address delivered before the Philosophical Society of Washington, October 27, 1883, with remarks by Dr. E. M. Gallaudet and Hon. Gardiner G. Hubbard, reprinted from the *American annals of the deaf and dumb* for January, 1884. Gibson Bros., Printers, Washington, p. 33.

line between deaf-mutes and the mentally defective,[4] and such an authority upon idiocy as the late Dr. Seguin maintained that while some deaf children may fall into a taciturn apathy simulating idiocy, "it is good to keep in mind, against discouraging influences, that there are no more cases of idiocy among children born deaf than among any other class; and that the supposed idiots pointed out are *enfants arriérés*, or affected with very superficial idiocy; the effect of the blanks left in their mind by the absence of the whole series of notions which enter the brains of other children through the auditory canal."[5]

Idiocy, as we know, is generally due to an arrested development of the brain as a whole, necessarily including the parts known as the auditory and motor speech centers. Idiots are therefore deaf and dumb. But if a child should happen to be born with these centers defective he would be deaf and dumb, whether the rest of the brain were affected or not. It would not, however, be surprising if the causes which affected the speech centers should also have acted to a greater or less extent upon other parts of the brain, and involved a corresponding loss of general intelligence, not necessarily amounting to idiocy.

Again, as Seguin's closing words suggest, intelligence is not bestowed as a completed product upon anyone; but is developed upon a basis of sensuous impressions and motor reactions. As far as we know anything about its cerebral basis it has no special organ, but corresponds to the number, accuracy, and tenacity of connections found between cerebral centers for the various senses and muscles. Whether deafness be due in any particular case to congenital defect of the brain or to other causes, its presence must prevent the development of the large area of the brain devoted to sensations of speech (known as Wernicke's convolution) and interfere more or less with that of all the

[4] *Ibid.*, p. 3.

[5] *Report on education.* By E. Seguin, United States Commissioner of Education at Vienna Universal Exhibition. Milwaukee. Wis., 1880, p. 71.

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other centers concerned in the interpretation of these sensations and the performance of the motor reactions to which they lead. This is a roundabout way of saying that general intelligence is the product of perceptions and thoughts about them, and that, where any important set of perceptions is lacking, general intelligence must be affected.

Of persons usually classed as deaf-mutes ninety-nine per cent. have no defect in their organs of speech. They do not speak simply because they have never learned to do so.

Articulate language is developed, not from the cries of pleasure and pain made alike by all animals, but from the babble of human infants. Babbling is at first as spontaneous and as aimless as the first movements of a baby's limbs. A child throws his limbs into every possible position long before he knows where they are or even that they belong to himself; but when some movements lead to pleasure and others to pain, he gradually learns to repeat the former and avoid the latter. In the same way older people learn to select the appropriate combination of movements from the great number of inappropriate ones involved in learning to write, or swim, or dance, or ride a bicycle. It is only after it is made by chance that we know how the proper movement feels, and how it can be made again.

All babies except idiots babble, and in babbling utter every conceivable sound. Those that can hear are interested in the sounds they make, and continue to make them; they hear others speak and try to imitate them; at the same time they lose interest in the sounds they do not hear from others, and cease making them; they finally connect the selected sound with visible and tangible things and acts; and thus they learn to speak.[6] For babies who cannot hear, the movements of the lungs and vocal chords called sound have no interest to retain them when the period of automatic innervation is over; there is no selection, and no speech replaces the crude initial sounds of infancy.

Persons who lose their hearing early in life are usually as

[6] Preyer, Tracy, Seguin.

dumb as those who were born deaf. If after a year of solitude, Alexander Selkirk, though a grown man, had nearly forgotten his mother tongue, and if the voices of people who become deaf in later life often grow harsh and unnatural, it is not surprising that children, less trained in the use of speech, when condemned to lifelong deafness, should soon distort, and then confuse, and finally forget the sounds they once could make. So strong, indeed, is this tendency that, in the census of 1880, all persons who lost their hearing before they were sixteen were returned as deaf and dumb.

Among the dumb are also found a large class of persons who are not absolutely deaf, but only hard of hearing. We have seen that physicians, examining children in the public schools, found that a considerable and important amount of hearing may be lost without its being noticed either by the teachers or the pupils themselves. Dr. Bell asserts that the presence of a considerable and much more important amount of hearing in the deaf is also continually overlooked. He says, "As a matter of personal observation I am convinced that a large proportion of the congenitally deaf are only hard of hearing, and this belief is supported by the fact that it used to be the custom in some of our institutions to summon the pupils from the playground by the ringing of a bell! Does this not indicate that a large number of the pupils could hear the ringing of the bell and that they told the others who could not hear at all? Such pupils could have been taught to speak at home by their friends, if artificial assistance had been given to their hearing. There was no necessity for their ever becoming deaf and dumb."[7]

Preyer has said[8] that only a small proportion of people said to have no ear for music were really born without a musical capacity that might have been developed by careful training. A slight original defect is often sufficient to destroy a given interest; it is difficult to make an effort where there is no interest or where one is afraid

[7] *Loc. cit.*, p. 8.

[8] *Infant mind*, p. 14.

of seeming clumsy; and so it happens that there is some respect in which everyone is deficient, whether it be in vaulting fences or telling dialect stories. Speech is an unusually complicated and difficult attainment, involving years of interested attention and the correction of countless blunders. We may not all have wondered at the reference to a consecrated cross-eyed bear when our elders sang, "The consecrated cross I'd bear," but everyone has made infinitely cruder blunders of interpretation and innumerable errors of expression. Take away the interest of successful attainment, and the voices around him become as confused and unmeaning and uninteresting to a child who is very hard of hearing as the sing-song gutturals of a couple of Chinamen to the average resident of San Francisco. The effort to interpret them is soon exhausted, and for want of exercise the cerebral centers, which might have been developed, steadily degenerate.

Whether thought is possible without language of some sort is an old question, now usually answered by a qualified affirmative. "Before the end of the last century," says Dr. Bell, "deaf-mutes were classed among the idiots and insane; they had no civil rights, could hold no property; they were irresponsible beings. Even those interested in the religious welfare of the world consigned their souls to the wrong place; for 'faith comes by hearing,' and how could a deaf child be saved!"[9] Sir William Hamilton discussed the matter thoroughly and concluded that while thought without language is possible to some extent, it cannot go far without something to fix results already attained. Language may thus be compared to masonry in a tunnel under construction, or forts in a newly conquered country. Preyer has reached similar results from the study of children.

The fact that only very rudimentary thought can exist without some sort of language proves nothing about deaf-mutes, for they are not without it. It is said that once upon a time a party of Indians, visiting the Great Father in Washington, were wandering about the city, lonely and dis-

[9] *Ibid.*, p. 6.

couraged, when they happened to visit the deaf and dumb asylum and found to their delight that they could converse freely with the children. The Indians concluded that they were of a kindred race and wanted to take them back to their Western homes.

It was of course in gestures that the children talked with the Indians. The way in which a gesture language is developed is well illustrated by Dr. Bell:[10]

"You may be, we shall suppose, a farmer, and your little deaf boy comes running into the house in great excitement, anxious to tell you something he has observed. How does he do it?

"We shall imagine a case. He commences by placing his hands above his head, bowing low, and marching about the room, after which he points out of the window.

"You shake your head; you have not the remotest idea what he means.

"His face assumes an anxious look, and down he goes upon his hands and knees and scrambles over the floor, touching the carpet with his mouth from time to time, and then again he points out of the window. Still you do not comprehend. A look of perplexity crosses his face. What can he do to make you understand? At last his face lights up as a new thought comes into his mind, and he touches the bridge of his nose, and again points out of the window.

"But alas! alas! you cannot understand.

"The little fellow is perplexed and troubled. At last, in despair, he takes hold of your coat and pulls you out of the door, around the corner, and—*you find your cow in the turnip patch.*

"Now you begin to understand what it was he meant to say; he had tried to picture the cow and to imitate its actions. The hands held above the head had indicated the horns; the scrambling on the floor on his hands and knees had imitated the action of a four-footed animal, and his mouth to the carpet meant the cow eating the turnips.

"But how about the bridge of his nose?

[10] *Loc. cit.*, 18.

"You will probably observe that the cow to which he referred had some white spot or other mark upon the nose, and the gesture of the child had not indicated a cow in general, but your black cow Bessie, with the white spot on her nose, in particular.

"Having advanced thus far in the comprehension of his meaning, do you think that the child will take the trouble to go through this same pantomime the next time he wishes to tell you about your cow? No; he may commence such a pantomime, but before he gets half through you understand what he means, and he never completes it. A process of abbreviation commences, until finally a touch on the bridge of his nose alone becomes the name of your black cow Bessie, and the simple holding of his hand above his head conveys to your mind the idea of a cow in general.

"By a natural process of abbreviation the child arrives at a simple gesture or sign for every object or thing in which he is interested."

Signs for abstract ideas are developed in a similar way. If, for example, the boy wished to indicate that he had seen a white cow, he might hold his hands above his head and touch his teeth. If you did not understand why he touched his teeth he would point to his shirt sleeve, or make the sign for a number of other objects whose only common quality was their white color, until you finally understood him. The next time, it would be sufficient to touch his teeth. Some deaf-mutes always use this sign for the color white; others imitate the movement of falling snow.

"It will thus be understood that a deaf child first commences to express his idea by pantomime, and that, by a process of abbreviation, pantomimic gestures come to be used in a conventional manner. Pantomime is no more entitled to the name of language than a picture is, although many ideas can be conveyed through its means. In proportion as it becomes more conventional and arbitrary it becomes more and more worthy of the name of language."[11]

When deaf people are brought together in more or less

[11] Bell, 20.

permanent communities the language of gesture is capable of indefinite development; signs for concrete objects, acts, and abstract qualities become fixed, and even a settled order of expression is established.

This is what is known as the sign language. In it each gesture is associated directly with a thing, not with a word. Indeed for the deaf and dumb the signs *are* the words, and in signs they think and dream. Since their language has no phonetic element, they of course do not spell, and if they develop a written notation it must be directly symbolic of either things or gestures. Such a sign language is of course a very different thing from the spelling of English words on one's fingers in what is called the "manual alphabet." It is not capable of literal translation into any spoken language, for it is wholly independent of ordinary linguistic distinctions. With deaf-mutes the acquisition of a sign language that has developed in another community corresponds exactly to our own learning of a foreign tongue: the more highly developed the language, the more difficult of course the task of acquiring it.

This suggests one of the minor difficulties in the education of the deaf. A deaf child of hearing parents has usually to take the initiative in developing a language they can understand, and when he has been fairly successful he is taken off to a school where he must learn a new set of signs before he can talk with his playmates. There he often forgets much of his original language and returns to his parents, who have also forgotten something, a foreigner. The deaf child of deaf parents who use a standard sign language is fortunate enough at any rate to be born, as normal children are born into a language that he may hope to use in at least a small community throughout his life.

If there were any race of people with whom deafness was normal they would doubtless develop from pantomime a sign language of great intricacy and expressiveness, though as it developed it would of course lose the beauty lent to any primitive language by its conscious metaphor. Such a

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new developed form of human expression would be highly interesting. But as things are, the deaf cannot be brought together in colonies without rending family ties, and it is an established policy to prevent as far as possible the existence of a race of deaf people, by discouraging such segregation and the intermarriages it would lead to. It is therefore in the interests of humanity to teach the deaf some form of the language of the country in which they live, and, if possible, to teach them to understand spoken words from the movement of the lips and to speak without the guidance of hearing.

Whether this is possible in enough cases to warrant the exclusion of gesture language from the schools is the great question at issue between experts.

While some maintain that the sign language developed from gestures is the only natural language for those who cannot hear and the only one they can be taught with much success, there is another and a growing group who believe that any language which a person can be taught is natural enough, and that results attained justify the attempt to teach the deaf to read and write the language of those with whom they must compete for a living; and even to speak it and understand it when they see it spoken.

There is no obvious or natural connection between most English words and the things they signify. To an English-speaking person they seem to belong together merely because he is accustomed to their association. To a foreigner the connection appears wholly arbitrary. If a deaf persón were so trained that the sight of a written or spoken word and the feeling of pronouncing it were as closely associated with the appearance of an object as is the sound of the word to a normal person, why should not the English of sight and touch be as "natural" for the one as the English of sound for the other? In other words, since any connection between a thing and its name is purely arbitrary—and would be just as arbitrary in a highly developed gesture language, the origin of which had been for-

gotten—why is not any language that a person can be taught as natural as any other?

Such ground might be taken by the extreme advocates of spoken English for the deaf. But if we regard a "natural" language as one which a people left to themselves could develop or maintain and improve, spoken English is certainly not a natural language for the deaf. No matter how arbitrary the signs they developed might become, a deaf people would never learn to make them with bodily organs most of which are concealed from view, and if they were left to themselves with a set of such signs the parts of the complex movements concealed from view would certainly degenerate and finally be lost.

To teach a deaf child to read and write freely is no easy task. It involves the imparting of a general sense of coherent language and the value of inflections,—a sense acquired by normal children before the time for school,—as well as the formation of lasting associations between the appearance of things and that of their written names. But to teach him to speak is infinitely harder. A person learning to play something more than forty notes on a violin which he cannot hear, and can only partly see, would have a task comparable to that of a deaf child learning to co-ordinate his unpracticed lungs and throat and tongue and lips in intelligible speech. When this is done, the deaf child must still either learn long lists of English words that are not pronounced as they are spelled, or learn to translate every word into a word spelled phonetically (usually into Melville Bell's "visible speech") and to associate it, when thus spelled, with the appropriate movements. This last is like learning to spell, not with pen or voice, but on the concealed and inaudible violin.

Though a deaf child learning to speak makes as much use of sight as possible,—examining pictures and models of the vocal organs, watching the movements of his teacher's mouth, and doing what he can, with the aid of a mirror, to imitate what he has seen,—it is from the sense of touch

that he can get the best idea of the movement of his teacher's vocal chords, and for a proper enunciation he must depend ultimately upon the feeling of his own vocal organs. It is therefore desirable for him to acquire a delicacy of tactual discrimination equal to that of the blind. Dr. Dresslar has shown [12] that practice upon one side of the body assists the power of discrimination upon the other, and it is altogether probable that the training of attention involved in any delicate tactual discrimination would be of assistance to speech that is wholly dependent upon touch. Dr. Seguin believed that attention to touch was the essence of the lost method of the once celebrated teacher Pereire.

A deaf child who has learned to speak has by no means learned to "read the lips" of someone else. The great difficulty here is due partly to the rapid perceptions involved, partly to the fact that the external appearance of the mouth is often exactly the same when the words pronounced are very different. The pupil must therefore learn what words can be confused, and interpret them by the context. Dr. Bell once dictated to a class the words "Hit, rate, ferry, aren't, hat, four, that, reason, high, knit, donned, so," and though he told them not to mind whether the words made sense or not, nearly every child wrote "It rained very hard and for that reason I did not go." [13] The children happened in this case to go wrong and of course the words were chosen to deceive them, but their blunders show the kind of alertness a deaf person must possess to give a rational interpretation to the lip movements he sees.

The difficulties involved in such a complex training are abundantly illustrated in the history of attempts to teach speech to the deaf. Such attempts have been numerous enough for the last three hundred years; but however successful they may have been at the time, they appear to have been peculiarly unfruitful in permanent results, partly because some of the best teachers, such as Amman at Amsterdam, early in the eighteenth century, and Jacob Rodrigues

[12] *American journal of psychology*, vol. vi. No. 3. [13] *Op. cit.*, p. 11.

Pereire, a Spaniard by birth, who moved his school to Paris in about 1750, kept their methods secret and these gradually disappeared after the death of the teachers; partly, without doubt, because in all difficult teaching success depends much upon personality, and personality cannot be transmitted; and partly because of the strong tendency for large schools to "run away with" the teacher. The Abbé de l'Epée, for example, began in Paris in 1770 to teach deaf-mute children "to hear with their eyes and to express themselves *viva voce*," but he was soon busy developing a gesture or sign language, which, according to Seguin, drove instruction in speech away for a hundred years.[14]

Until a deaf child has mastered the tedious process of reading and writing (to say nothing of speech) he can have no intercourse with his schoolfellows without resorting to signs; so to signs he resorts, and no rules can prevent him. But with a room full of children who understand signs and cannot understand speech, a teacher who has something important to tell, even if it be how to speak, is sorely tempted to tell it in signs; so that signs, already the language of the playground, often become that of the classroom as well, and speech is never well enough learned to be used among strangers and remembered. There are many important things besides speech to be taught to children, and many teachers feel justified in teaching by signs, when they have the opportunity, what might otherwise remain altogether untaught. Others, of whom Dr. Bell is the most prominent representative, maintain that the use of signs should be forbidden from the first, so that children should be compelled to learn to think in speech movements. Between the method of teaching speech with the aid of signs and the method of those who would forbid the use of signs altogether, corresponding respectively with the grammar-and-dictionary and the so-called "natural" method of teaching a foreign language, it is possible to express a preference, but not to make a final judgment. Those who refuse to use signs must sacrifice to language,

[14] *Report on education.*

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for the time at least, instruction in many matters of very vital human interest. Both methods have been eminently successful in some cases. At Clarke Institute in Northampton, founded, against much opposition, for the teaching of speech, children in the preparatory department are allowed to use signs and the older children are not.

A problem much greater than that of method is whether in most cases it is worth while to teach speech at all. According to Moritz Hill of Weissenfels, Prussia, quoted with approval by Dr. Gallaudet,[15] only eleven per cent. of all those who come under instruction can be taught speech enough to get along comfortably with strangers. This statement is not so discouraging when it is compared with the words in which Dr. Harvey P. Peet in 1852 summarized the results of his investigation of the work of European institutions: "In fact, all teachers of the deaf and dumb in all countries, and under all systems, have been forced to acknowledge, with pain and humiliation, that after their best efforts have been bestowed, they are able to show a few exceptional cases only, of deaf-mutes from birth, who have obtained the ability to read books with the ease, pleasure, and profit which well-educated persons associate with the idea of reading." [16]

It is claimed by the advocates of pure verbal methods that much better results have been obtained since this report was written, and that, with experience in the use of such methods, the results will continue to improve. It is certainly true that deaf children who have learned to speak and "read the lips" understand written English better than those who have not, but whether the spoken language helped the written to any great extent, or whether the better knowledge of the written language accounted largely for the acquisition of the knowledge of speech, or whether both are alike to be explained by a greater native

[15] *Loc. cit.*, p. 30.

[16] Quoted from J. C. Gordon's *Notes and observations upon the education of the deaf*, Volta Bureau, Washington, 1892.

intelligence, it is harder to say. The movement in favor of a pure verbal method has carried all before it in Italy, and, since the establishment of the Northampton school in 1867, has made great strides in this country, though no one claims that every child can be taught speech by any method.

According to the report of the Commissioner of Education for 1892--93, which has just been published, there are in the United States eighty public and private schools for the deaf, carried on at an annual expenditure of more than two million dollars. Of their 9304 pupils and 626 teachers, 3202 of the former are taught, and 219 of the latter teach articulation. According to Dr. Joseph C. Gordon,[17] 10.4 per cent. of the entire number of deaf pupils attending school in the United States are taught not only in, but by speech. In New England 64.7 per cent. are taught by speech.

The report which a Royal Commissioner presented to the British Parliament in 1889 should be of special interest to Americans on account of the immense amount of testimony from this country presented to the commission. The following recommendation, reached after long deliberation and almost unanimously agreed upon, implies a hope that, by the use of pure oral methods, the apparently meager results attained in the past at infinite pains may be surpassed.

"That every child who is deaf should have full opportunity of being educated on the pure oral system. In all schools which receive Government grants, whether conducted on the oral, sign and manual, or combined systems, all children should be, for the first year at least, instructed on the oral system, and after the first year they should be taught to speak and lip-read on the pure oral system, unless they are physically or mentally disqualified, in which case, with the consent of the parents, they should be either removed from the oral departments of the school or taught elsewhere on the sign and manual system."

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[17] *Notes and observations upon the education of the deaf*, Volta Bureau, Washington, D. C., 1892, p. 21.

IV

ARE THE PRESENT ENTRANCE REQUIREMENTS FOR ADMISSION TO COLLEGE TOO GREAT IN QUANTITY?

Lowell remarks in his essay on *Democracy* that "In a world the very condition of whose being is that it should be in perpetual flux, where all seems mirage, and the one abiding thing is the effort to distinguish realities from appearances, the elderly man must be indeed of a singularly tough and valid fiber who is certain that he has any clarified residuum of experience, any assumed verdict of recollection, that deserves to be called an opinion, or who, even if he had, feels that he is justified in holding mankind by the button while he is expounding it." These words well describe anyone who is earnestly striving to arrive at safe and sound views upon education to-day. Men seem determined to settle more questions and deeper ones in the closing years of this century than were ever proposed or presented in any other decade of the world's history. Their variety and gravity have given rise to a colloquialism which finds its scholarly expression in Lowell's words; and so far as education is concerned, should make all but a very few hesitate to "hold mankind by the button" while they are expounding their views. Certainly, I appear before this thoughtful audience with unusual diffidence, to discuss one of the most difficult and yet one of the most vital questions of the day. The purse and the patriotism of the country are alike involved; and, as I believe, the diffusion and intensity of scholarship as well. Hence it is that this particular question in education interests parents, and the public, possibly more than any other. A father may be indifferent as to the study of Greek, or the value of Herbartianism, but he has decided views as to the age at which his son should become

self-supporting, or the value and character of the different parts of our educational system, public and private.

I

The " perpetual flux " of Mr. Lowell makes it difficult to say what the present requirements for admission to college are. Possibly the scheme proposed by the conferences inaugurated by this association must be taken as the basis. On the whole, we may render our consideration of the subject most useful by giving attention to the general trend of professional opinion as revealed by the stated requirements of college catalogues, by the recent discussion at Harvard, by the reports of the Committees of Ten and Twelve; and finally by the reports of the Columbia University Conferences.

Whence these sharp differences of opinion? Why says one good and wise man, a boy should be nineteen when he enters college, and another equally wise and good man, a boy should enter at sixteen or seventeen? Why should Andover and Exeter assign one hundred lines, and St. Paul's and Newark Academy forty lines of Vergil for a lesson? Why does a Boston high school insist that botany or physics is a fit subject for college preparation, and a Pennsylvania academy maintain the opposite? Why should a boarding school administer a schedule of twenty or more periods a week and an urban day school one of fifteen or sixteen? Why does President Elliot deplore that President Low did not appoint conferences on the sciences?

To ask these questions in such form is to suggest answers; conditions of work—fixed, almost inexorable, irrespective of points of view—determine. The New England academy has a totally different type of boy from that found in our day and boarding school. Never in the history of school work was there such an educational juggernaut as that maintained by Dr. Taylor at Andover. He needed a *corpus vile* of two hundred members to make twenty-five matriculates for Yale College, and to this day the typical New England academy

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expels or dismisses more than one-fourth of all its enrollment. Reflect, too, upon the influence of this method of work upon other schools. A time was when the system of the New England academy was very dominant in our fitting schools. Young men recently graduated from college, forgetful of the exceptional conditions of their own school careers, vainly attempted to establish these conditions in other schools. Our pupils cannot work as they could.

Again, specialization of work in our colleges has induced the conviction that pupils can and must do more. Each specialist is so enamoured with his particular subject that he presses—and often successfully—for a fuller recognition of it, which means more work by the fitting school. And this same influence is at work in the schools. The teacher of botany, of history, of physiography, of physics, of chemistry, of French, of German, has an infectious influence upon his institution. Fresh from Germany or the graduate school, often with a finer, or more scholarly tone than the teachers of the older subjects, he successfully advocates the importance of his subject in a scheme of preparatory work.

But the most serious, the most radical influence at work to disturb and modify the entrance examination is the demand that graduation from the high school should be accepted as implying a preparation for college as good as graduation from the fitting school. Hence the demand for a wider range of electives for admission to college, and that such subjects as history and botany be added to present requirements. But we must bear in mind that the wider range would certainly double the expense of preparatory work, just as the increasing lists of electives in college have greatly added to the cost of collegiate instruction. Large numbers of our preparatory schools could scarcely hope to meet these proposed requirements. There would result a costly subdivision of classes which neither boards of education nor proprietors of schools are likely to approve or provide for.

Here, then, logically emerges the penetrating question:

Looked at broadly, what is the purpose of the college and the university—to educate the few that gain admission, or to be a great elevating and enlightening force among all the people? Like the older and closely related question: What is the purpose of the high school—to train the few that gain admission from below, or to be an inspiring and stimulating force in all parts of the system? For my part, I unhesitatingly reply, in each case, the latter is the chief purpose. There may be here some pupils of the elder Quackenbos who recall his doleful prophesy that this government of ours could not last long; man must have, he maintained, a Pope, a King; democracy is impossible for any great while. At times the most optimistic of us must take similar gloomy views. The economic fool, the financial fool, the socialistic fool, has all too much soil in which to sow. If the university was historically—as I believe it was—a creation for the masses even in monarchical countries, surely in a democracy such as ours it should be the mightiest force for the preservation of our institutions. Admit now, for a moment, the validity of this view of the higher education, and you have resolved a whole cluster of difficulties about the matter before us. We are all familiar with the undemocratic talk about educating boys and girls out of their spheres, about the danger of developing here a German proletariat—as though a man or woman could have and enjoy too much beauty and truth! Let us hope we have recovered from the effects of Matthew Arnold's lecture on Number, and have thrown off the spell of our early readings in Carlyle about "Solar Men." The graduate and professional school will will always crown fittingly our general culture work and provide for the select spirits of the age.

Totally different problems presented themselves to our academies and colleges in the earlier days. Then the choice youth only could entertain the holy ambition of a college training. But now the democracy of the New World says to the humblest youth, in the language of the old prophet, "Son of man, stand up."

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Of course, I have no desire to discuss here modern democracy. My sole purpose in suggesting these considerations is to urge their binding force upon framers of college entrance requirements. If the validity of these considerations be granted, if believed to be valid by a large element of educationists,—and I know they are so believed,—then two results follow:

1. The high school must in some way be articulated to our collegiate system of education; either by closer conformity to the programmes of preparatory schools, or by an agreement on the part of the colleges, permitting a wider range of electives in preparatory work.

2. As a consequence of the foregoing, there can be no increase for a long time to come in the requirements for admission; and unless we can swiftly adapt ourselves to changed conditions there must be a substantial decrease in requirements.

The reason for this instance is apparent. The great middle and submiddle classes of society cannot afford, nor can the country afford, to have its youth graduating from college at an average age close to twenty-three years. If, in other words, the collegiate education of the country is to be democratized, as seems essential to the welfare of the country (I have, observe, stuck quite closely to utilitarian considerations thus far), then the question we are asking, in common with all our schools and colleges, concerns not alone the half million students in American colleges, but the fifteen million boys and girls in our schools. The best educational systems in the world have been nationalized, and I firmly believe ours should be. But nationality cannot be predicated of a system that excludes the schools of the people from all the higher and finer culture, as our present system does. The wisdom of the programmes of the Committee of Ten consists in their patriotism, in their full recognition of the actual conditions of school work in this country. They are democratic, not aristocratic. Had we time to master other subjects not

named by the Committee of Ten, or to accomplish more with those so named, the case would be different. To quote with Spenser:

> "Could a man be secure
> That his days would endure,
> As of old, for a thousand long years,
> What things might he know!
> What deeds might he do!
> And all without hurry or care."

II

I come now to the more particular consideration of the actual state of the case.

Regardless of any harsh criticism of your work as teachers, are you satisfied with it? Where is the school principal that satisfies his colleagues in the allotment of hours for their subject? Does not the honest, faithful teacher often think that the framers of programmes of school work have verily hitched their wagons to the stars, and do they not often cry out *Eheu jam satis!* I have for professional reasons visited a great many classrooms in this country; rarely have I heard in language work that unsnagged, unchopped, facile winsome rendering of a foreign author that so delights the soul. The reason was manifest: teacher and pupil were tugging at a great mass of work, so great as to preclude high excellence. Making all due allowance for original depravity in the critics of the Harvard boys' English, I think our mother tongue cannot survive what Dr. Taylor used to call the "slaughter-house" treatment of the boy translator. The acquisition of any foreign tongue by a lad between twelve and eighteen is necessarily a slow process; and he must now ordinarily study three foreign tongues to fit him for college. Each one of them must be approached, not by natural methods, but by what Milton calls "That noble study of Grammar." A world not only of words but also of ideas, facts, wisdom, and philosophy, must be entered by our pupil, to whom that world is a total, a forbidding stranger. The best of them—and the best of our teachers—do pretty

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well. But who will defend the results of our work as it concerns the rest?

There is a chapter of college history that has never been written. If any member of this association desires swift, unquestioned fame, my word for it, he may have it. Spend a month in our six leading colleges listening to the recitations —not of the upper quarter, whom any fairly good teacher could cause to prosper, but of the submerged lower half or quarter of the several freshmen classes. Then communicate to the world, by voice and pen, your finds!

The petition that one may hear from teachers on all sides —unuttered, or expressed—is that time be given for high, deep, broad work in the classroom. Any subject well learned trains for higher achievement in others, and of course the converse is true: poor work begets poor work. One of the most brilliant men in New York—a famous graduate of a famous college—remarked recently that, after all, a man bore away from college only two great gifts: a right method of work and investigation, and a more than ordinary knowledge of where to find or how to find facts. People rail at Greek because it is so soon forgotten; who remembers his other college studies any better? If now we go on piling up the facts and subjects required for college, shall not the acquisition of good mental habits become still less possible?

III

I have kept for final consideration the real *crux* of our matter—the age of entrance. Let us argue what we may about the comparative worth of different kinds of knowledge, about the articulation of the public schools to our collegiate systems, and the consequent widening of the range of electives; about the wisdom and practicability of findings of the Committees of Ten, Twelve, or Fifteen; let us argue what we may for or against the quality of college preparation as it is—there still stares us in the face the fact that young men are twenty-three before they are prepared to begin their professional studies or business careers. And this fact has been

rendered more acute within a very short time, because all our professional schools are justly lengthening their courses of study.

I have several rather singular personal testimonials: 1. A college president, whom we all honor, declared that if he were not president of his college he would not send one of his family of sons to college. Neither he nor they, he thought, could afford the time. 2. A distinguished professor of medicine and a trustee of one of our leading universities, whose sons have adopted their father's profession, entered these boys, directly upon leaving the secondary school, at the professional department of his university—wisely allowing time for professional study, hospital practice, and the anxious and costly waiting for patients. 3. Dr. McCosh once said to me that his knowledge and observation of the young men who had been under him, here and abroad, forced the conviction that a man rarely became successful in his chosen career unless he acquired a firm grip upon it before twenty. Possibly you may not have read recently that marvel of man's political wisdom, the Athenian Constitution. If you read it again, you will see that an Athenian was deemed qualified for the greatest services in the state or court at thirty. Too many of our A. B.'s are at thirty wondering what is likely to turn up in this unfeeling world!

I am not unmindful that there is an element in college that would prefer to be there till it is twenty-five—that constantly increasing class of whom it was wittily said, "It is better to go and loaf than never to go at all." But that larger and more precious company of earnest men in all our colleges should be our great concern. As for the rest, life in any event is but an eternal holiday, making the ceaseless round of "seasons." It is immaterial whether they are ready for life at thirty or forty.

Are the present entrance requirements too great? As an abstract, theoretical question, no. The time must come when boys at sixteen or seventeen can bear to the college gates all that is now proposed or desired. When my good

friends, Drs. Hervey and Shaw, Professor McMurry (and possibly even Dr. Schurman), shall have had a fair opportunity to train and equip our college graduates as teachers for our schools; when no mere apprentice hand shall touch our youth in this supreme studio of God—the schoolroom; when the staple of home talk in our families shall not be of stocks and bonds, balls, theaters and the opera; when children in the daily life of the home shall hear of the things of the spirit more than of those of the body; when books shall decorate not only shelves and tables, but also human souls —then, and not till then, we may confidently expect a healthy boy to achieve all that is now vainly striven for, even though our young chap is on the "team," or occasionally writes verses for the *Microcosm*.

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V

CHILDREN'S ABILITY TO REASON

After the long vacation the teacher frequently reports to her principal or superintendent that her school needs a careful review of last year's work in arithmetic. She is likely to grow confidential and to express, with proper apologies, doubt of the ability of Miss Smith, who taught the school last year, to teach that subject.

Children frequently do good work one year and poor the next, for which the teacher is censured. These facts and the general dissatisfaction with results in teaching arithmetic have been my reasons for giving recently a great deal of thought to the course in mathematics for grades below the high school. It seemed probable that a more exact knowledge of the development of reasoning power would be helpful to us. To determine something of this I began by selecting problems which were examples of different types of comparison of numbers. These I gave to classes, noting the degree of success or failure with the same problems. When the Child Study Section of the State Teachers' Association was formed last December, it took up this problem, and after the revision of my syllabus gathered many hundred papers for me from both Colorado and California.

The syllabus was in six parts. In framing each the attempt was made to keep well within the range of work commonly given in the text-books, to make numbers so small that chance of failure on their account would be slight, and to make each exercise so short that fatigue would not be a factor of consequence. Too few results have been received on the first series to be of value, and those received on the sixth are not worth reporting.

The second, third, fourth, and fifth series, with directions given to teachers, are as follows:

SECOND SERIES—FOR SECOND AND THIRD GRADES

Perhaps not more than three of these would better be given in any one day in order to avoid the element of fatigue affecting results.

1. Four yards make 12 feet, how many feet in one yard?
2. One foot equals 12 inches, how many inches in 3 feet?
3. Four pencils cost 16 cents, what will six cost?
4. Three boys cut a pile of wood in six days, how long will it take one?
5. One boy paints a fence in 8 days, how long will it take four?
6. Three men dig a cellar in 6 days, how long will it take two?
7. Two-thirds of a yard is 24 inches, how many inches in three-fourths of a yard?
8. One pound of candy costs 12 cents, what will three-fourths of a pound cost?
9. A boy lost two-thirds of his marbles and had 8 left, how many had he at first?

THIRD SERIES—FOR FOURTH AND SUCCEEDING GRADES

1. Twelve cords of wood are 96 feet long, how long will 8 cords be?
2. Three men dig a well in 4 days, how long will it take 6 men?
3. Three-fourths of a dozen eggs cost 15 cents, what will 5 dozen cost?
4. Three-fourths of a measure of grain weighs 24 pounds, what does three-eighths of it weigh?
5. A storm broke off three-fifths of a tree; the part left was 30 feet high, how high was the whole tree?
6. Sixteen yards of silk cost $48, what will two-thirds of a yard cost?

FOURTH SERIES—FOR SAME GRADES

Use these as some test of the pupils' power to deal with conditions somewhat algebraic.

1. B has twice as much money as A; they have together $21, how much has each?
2. Five times a number is 40, what is the number?
3. Four times a number is 6 more than 48; find the number?
4. Six times a number is 7 less than 61; find the number?
5. The sum of two numbers is 30, their difference is 6; find the numbers?
6. What number multiplied by itself makes 36?

FIFTH SERIES—FOR SAME GRADES

Use these as some test for pupils' readiness to visualize conditions.

1. Two boats start from the same place and both sail up the river, one at the rate of 2 miles per hour and one at the rate of 3, how far apart will they be at the end of 4 hours?
2. If one sailed up the river at 2 miles per hour and the other at 3 down the river, how far will they be apart in 4 hours?
3. Find the area of a strip of paper 10 inches long and one-half inch wide?

4. Of a strip 2½ inches long and ⅓ inch wide?
5. Of a piece ¼ inch square?

Give your pupils *no* preliminary drill for these tests. Omit no test, "because your pupils have had no such work." Ability to do many things often develops without the teacher's aid.

It will be no reflection on you if your pupils make many failures. Poor papers have often to the expert as great value as the better ones; and the absence of the poor ones may lead to wrong conclusions. All papers will be treated as confidential and no reference will be made in our report to either teacher or locality furnishing papers.

The most of what is here offered may be given the pupils as written work during the usual period of recitation. Keep from them the fact that any special use will be made of their papers. It may be well to say when their recitation period comes that they may try this work instead of reciting. Write all problems on the blackboard and ask the pupils to copy one at a time, and place their work below it. Give them *no* assistance beyond reading the problems over to them. When they are through ask them to write name, age, and grade on their papers.

Try the third, fourth, and fifth series on separate days, and collect the papers after a trial of each series.

The second and third series have the same general purposes and will be discussed together. For the second series returns are available from 286 boys and 234 girls; for the third, from 690 boys and 783 girls. These papers have all been examined and tabulated by the writer. The percentage of mistakes in multiplying, dividing, adding, and subtracting was too small to be reported.

The following tabulations show the number of children of each age and sex, percentage of error on each problem, and total percentage of error at each age:

SECOND SERIES

Age.	*Sex.*	*No.*	*Percentage failing on each problem.*									*Total, or average.*
			1	2	3	4	5	6	7	8	9	
7	Boys.	45	44	44	56	54	64	69	69	69	71	60
7	Girls.	48	38	50	62	56	64	75	79	73	73	63
8	Boys.	94	29	34	61	63	59	80	84	80	89	64
8	Girls.	67	10	28	48	58	52	79	71	68	86	56
9	Boys.	87	22	30	50	58	54	80	73	82	82	59
9	Girls.	70	10	24	38	44	40	78	54	63	81	48
10	Boys.	60	26	26	51	55	57	70	70	72	91	58
10	Girls.	49	35	35	65	58	63	79	80	75	82	64

THIRD SERIES

Age.	*Sex.*	*No.*	*Percentage failing on each problem.*						*Total, or average.*
			1	2	3	4	5	6	
9	Boys.	37	46	27	57	70	83	62	57
9	Girls.	28	43	61	61	75	75	57	62
10	Boys.	80	33	25	50	61	67	47	47
10	Girls.	88	51	43	67	77	81	61	64
11	Boys.	109	32	24	52	55	61	45	46
11	Girls.	135	25	33	55	59	72	58	50
12	Boys.	150	29	23	39	52	52	44	40
12	Girls.	153	27	22	41	54	61	45	42
13	Boys.	150	18	18	23	40	47	23	28
13	Girls.	188	23	20	35	50	52	38	36
14	Boys.	87	18	23	45	58	50	33	38
14	Girls.	107	16	25	21	33	55	23	29
15	Boys.	77	4	5	21	25	33	23	18
15	Girls.	84	14	11	22	27	33	18	21

The errors may be all heard or seen daily. Children hearing them rarely manifest suspicion of their absurdity. The following are typical of the mistakes on each problem:

SECOND SERIES

1. One yard makes 4 × 12 feet, or 4 + 12 feet.
2. Three feet equals 15 inches, or ⅓ of 12 inches.
3. Six pencils cost 4 × 6c., or 6 × 16c.
4. One boy cuts the pile of wood in 2 days, or 9 days.
5. Four boys require 4 × 8 days.
6. Two men dig a cellar in 2 × 6 days, or 2 × 3 days.
7. Three-fourths of a yard is ¾ of 24 inches.
8. Three-fourths of a pound cost 3 × 12 cents.
9. The boy had 2 × 8 marbles.

THIRD SERIES

1. Eight cords are 8 × 96 feet long.
2. One man requires ¼ of 4 days.
3. Five dozen eggs cost 5 × 15c., or sixty eggs cost 60 × 15c.
4. Three-eighths of the measure is ⅜ of 24.
5. Three-fifths of a tree equals 30 feet.
6. Two-thirds of a yard cost ⅔ of $48.

It may be claimed that confusion resulted because these problems were placed together, and that they could have been solved if given separately. This may be true, but if

true, certainly emphasizes the children's weakness. Every teacher has many times observed children trying first one method after another for the solution of a problem, or trying the same method with a miscellaneous list of problems.

Confusion in analysis has resulted apparently in many cases from the use of long forms. I do not think that it can be said that poor teaching accounts for the errors, since the localities furnishing reports would, if named, be recognized as known to have good schools. No locality is conspicuous for either exceptionally good or poor sets of papers. The tabulation by age prevents the personality of any one teacher from affecting the results for any one particular age.

These problems are not uncommon ones. Perhaps some of these types are not given the attention they deserve in teaching, but can we assume that power develops only as we develop it!

To what extent these results are due to present methods of teaching is best left an open question now.

The failures of the boys at seven have increased at eight. There is a decrease during the next four years, greatest at nine years, counting both series. The rate of decrease of error is more rapid at thirteen and fifteen years, but at fourteen errors are nearly as numerous as at twelve.

The failures of the girls are more than those of the boys. The girls' improvement is continuous till they are ten years, when they lose power.

This is regained during the next year, and excepting some retardation at thirteen years, continues with little irregularity.

There is, all told, less irregularity in the curve for the girls than for the boys.

At fifteen there is little difference in power. The loss of power by the girls of ten years and by the boys of eight and fourteen years seems to be peculiarly significant. Of perhaps greater significance is the fact that these losses are more than made up during the year following. This suggests that poor work done during these periods need not

be reason for refusing promotion. The teacher need not necessarily be subjected to criticism, nor worry on account of the children's stupidity.

If we take into account the results for both sexes, percentage of error decreases most rapidly at nine, thirteen, and fifteen years.

The very large percentage of error with many of the problems in early years, suggests that time for these would better not be taken until much later. There seems to be a limit, yet to be fully determined, to the number of steps in reasoning each child can take.

There are many coincidences between the curves for physical growth[1] and fatigue and these tabulations. The rate of growth, which has been rapid during the first eight or nine years for both sexes, decreases greatly for the boy during the next two or three. He begins during his thirteenth year to grow much more rapidly, and continues this rate for about three years, when it decreases greatly, ceasing about twenty-one or twenty-two.

The rate for the girl slows greatly between nine and ten; generally she grows at a very rapid rate during the next three years. This rate then decreases rapidly, her growth generally ceasing between seventeen and eighteen. The boy fatigues most easily at eight and fourteen, the girl at thirteen. Brain growth and size fluctuate, says Vierordt.[2] The boy's brain has lost in weight at fourteen; at fifteen it has regained it. Other tables quoted by Donaldson, showing the rate of growth in strength, might be quoted.

The theory that physical growth and power to reason increase generally at much the same rate, unless interfered with by such factors as teething and pubertic changes, comes readily to mind.

Returns on the fourth and fifth series are available for the ages from eleven to fifteen inclusive. Papers were written by 472 boys and 597 girls for the fourth series, and by 447

[1] Donaldson's *Growth of the brain*, chap. iii.; Porter's *Growth of St. Louis school children*.

[2] Donaldson's *Growth of the brain*, p. 105.

boys and 551 girls for the fifth. The writer has examined and tabulated these also, with results as follows:

FOURTH SERIES

Age.	*Sex.*	*No.*	*Percentage failing on each problem.*						*Total, or average.*
			1	2	3	4	5	6	
11	Boys.	83	36	15	58	47	77	24	43
11	Girls.	95	45	7	55	42	66	22	40
12	Boys.	106	28	5	39	33	59	13	30
12	Girls.	117	25	3	35	29	52	7	25
13	Boys.	133	15	2	19	20	45	7	18
13	Girls.	163	12	0	26	16	58	2	19
14	Boys.	93	17	1	24	14	50	4	18
14	Girls.	133	13	0	13	13	45	3	15
15	Boys.	57	17	0	30	15	42	10	19
15	Girls.	89	16	7	21	10	42	7	17

FIFTH SERIES

Age.	*Sex.*	*No.*	*Percentage failing on each problem.*					*Total, or average.*
			1	2	3	4	5	
11	Boys.	70	33	37	74	80	82	61
11	Girls.	100	45	52	62	65	72	59
12	Boys.	102	18	27	48	52	67	42
12	Girls.	106	25	30	60	72	85	54
13	Boys.	123	9	18	33	42	53	31
13	Girls.	145	13	24	38	45	59	36
14	Boys.	86	7	22	25	30	48	22
14	Girls.	114	9	13	22	31	50	25
15	Boys	66	8	15	18	18	30	18
15	Girls.	86	5	16	17	22	45	21

The following are typical of the errors:

FOURTH SERIES

1. A will have ½ of $21, or A and B will have 3 × $21.
2. 5 × 40 = the number.
3. (4 × 48) + 6 = the number.
4. (6 × 61) − 7 = the number.
5. $\left.\begin{matrix} 30 + 6 = 36 \\ 30 - 6 = 24 \end{matrix}\right\}$ the numbers.
6. 1 × 36 = the numbers, or ½ of 36 squared.

FIFTH SERIES

1. 2 × 3 × 4 = the distance, or (2 + 3) × 4.
2. 2 × 3 × 4 = the distance, or (3 − 2) × 4.

In the last three area was confused with circumference.

An examination of the errors suggests the same comments. The percentages for the fourth series show a decided gain of power for the boys of twelve years with less for the girls. There is no less of power for either at any succeeding age studied here. Excepting at eleven, the boys make fewer errors than the girls.

In the fifth series the errors of the girls are fewer than those of the boys This seems to be in line with Galton's conclusion that women visualize better than men. After thirteen power is practically at a standstill, though with percentage of error low.

If we proceed on the theory that there are periods when a power of any given kind begins to develop and function, and that forcing it to function before its proper time is but productive of later weakness, the question what modifications are needed in arithmetic teaching is suggested. Certainly the movement for early introduction of the elements of algebra and geometry is to be commended, and also the tendency to do less number work in lower grades. Perhaps at nine and thirteen years much more time could well be given to arithmetic. Interests most dominant at other years should receive more attention. It does not appear at any stage that greater "thoroughness" in arithmetic is secured by lengthening the time given it. "Practical" arithmetic has been generally taken to mean problems involving money transactions. A very large part of popular arithmetics is filled with such work. It is very doubtful if children can reason far beyond their experience and environment. Practical teaching should utilize these, extend them, and aim more at the development of power.

In this study my associates have heartily co-operated. Dr. Balliet has made valuable suggestions.

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VI

"READING AT SIGHT" IN ELEMENTARY LATIN TEACHING

I have long had a growing conviction that the present insistence upon the importance of reading at sight in our elementary classical instruction involves some misconceptions and may work actual injury to the interests of classical study. "Reading at sight" is used in two senses; in one sense it is the oral reading of a passage from some classical author in the original Greek or Latin in such a way as to indicate by enunciation and intonation that the reader appreciates and feels its content, just as he would in the case of a similar passage in his own vernacular. In the other sense "reading at sight" designates the translation into English of a passage never before seen. In the brief discussion which follows I shall restrict the expression "reading at sight" to the first of these two senses, and in referring to the second process shall employ the phrase "translation at sight."

With the appearance of Professor Hale's fascinating and stimulating paper on *The art of reading Latin*,[1] the suggestion was first definitely put before teachers and pupils that by the proper method of study it was possible at a relatively early stage of one's Latin course to learn to apprehend even the more complex periods of Cicero's orations as rapidly as read by the eye or heard by the ear. To acquire this power, Professor Hale recommended habituating one's self, from the very beginning of Latin study, to extensive oral reading. As the Latin word-order constitutes one of the chief difficulties in the comprehension of a Latin sentence, the pupil was

[1] Boston, 1887.

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urged consciously to ask himself at each word of a new sentence, Just what bearing or bearings may this word have? and, holding his several conclusions in suspense, was bidden to press on to the end, precisely as in the case of his own language. Faithful application of these principles, it was promised, should enable the pupil, as he progressed in his Latin study, to understand Latin without the necessity of a translation. Professor Hale included in his paper well-chosen illustrations of the way the pupil's mind should act in attaining the promised goal, and new visions of the millennium thrilled the hearts of those who were so fortunate as to listen to the original exposition of his views at the Conference of Academic Principals held at Syracuse in December, 1886. Since Professor Hale's pamphlet appeared (and incidentally before that time),[2] Professor Greenough has given forcible expression to views practically identical with those presented by Professor Hale. In the Preface to his edition of Eutropius (Boston, 1892), he thus concludes his remarks on this question: "The essence of all this is that to learn to read a language the words must be taken as they come, with the ideas they are supposed to convey, *and must be forced to make a mental picture in that order*,[3] no matter whether the order is familiar or not."[4] More recently still the Commission of New England Colleges has urged[5] in the new scheme of instruction which it has lately recommended to the secondary schools of New England for adoption, that a very large amount of attention be paid to reading at sight. The eminent standing of the advocates of the new theory naturally claims for their views the most serious consideration, and it is because I am not familiar with any previous discussion of the subject that I venture here to express some doubts as to the soundness and the practical possibilities of the theories so confidently championed.

[2] For example, in the Introduction to his edition of Cicero's *Orations*, Boston, 1886.

[3] The italics are mine.

[4] *Cf.*, also, the similar tenor of Professor Flagg's remarks in the Preface to his edition of Nepos, Boston, 1895.

[5] See the report of the action in the *School Review* for December, 1895.

A favorite appeal with those who lay stress upon the importance of reading at sight is to the fact that children, in learning a language, learn it not through the medium of objective study and translation, but by direct interpretation of what they hear or read. "Why," they ask, "should not Latin and Greek be acquired in the same way?" A proper answer to this inquiry seems to involve the consideration of two other questions, first: What is the purpose of Latin study in the secondary school? and second: What is the nature of the intellectual training gained by acquiring a language in the subjective way that is usual with children?

To the first of these two questions, I can still see no other answer than that which I undertook to formulate and defend in the *School Review* for May, 1893. As there set forth, the only rational justification of the study of Latin in our secondary schools seems to me to be found in its unique effect in stimulating and elevating the pupils' intellectual processes, and most of all in the increased mastery over the resources of the mother tongue which it confers. As previously maintained, these results come naturally as a result of careful daily translation under wise guidance—a process involving, on the one hand, minute consideration of the thought of the author read and, on the other, a severe and laborious comparison of the value of alternative English words, phrases, and sentences, with consequent skill in making the same effective as a means of expression. It will hardly be denied by anyone that the results claimed for such study are actual; and precisely herein would I find the essential justification of Latin as a study in the secondary education. If it accomplishes these ends, its usefulness can hardly be questioned; if it fails to accomplish them, it is difficult to see on what grounds its present exclusive and exalted position in the school curriculum can be defended. We can scarcely undertake to support its claims primarily on the ground that it supplies any adequate knowledge of the past. For it notably fails to do that. No student who has faithfully devoted four years to the Cæsar,

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Cicero, and Vergil prescribed for admission to college will be likely to have any such knowledge of Roman history and institutions as that possessed by the student who has devoted six months to Allen's *Short history of the Roman People*, let us say. Nor can we—for the schools at least—regard the purpose of Latin study to be the acquisition of a familiarity with Latin literature—for the simple reason that no such familiarity is acquired. Probably most will agree that the first four books of Cæsar's *Gallic war* are not literature. More is to be said for the six or seven speeches of Cicero commonly read in the schools, and much more for the first six books of the *Æneid*. But the amount of literature contained in these brief selections can hardly be regarded as sufficient to justify the prolonged attention now given to Latin in our high schools and academies. Lest I be charged with ignoring the possibility that the utility of Latin study in the schools is to be found in its preparing the pupil to prosecute the study of Latin in college, I need only to call attention to the fact that but a very small proportion of those who study Latin in the schools ever go to college, and that of those who do only a fraction devote more than a minimum of that time to the study of Latin. The oldest and greatest of our American colleges prescribes[6] Latin for admission, while not insisting upon any further pursuit of the study within the college; a fact that would seem sufficiently to show that Latin is regarded by competent authority as possessing claims as a preparatory study, apart from all considerations of its further pursuit in the college or the university. If, therefore, we are rational in our present adherence to Latin in the secondary education, I cannot but think that it is primarily because this study is valuable as a means of disciplining the mind for keener intellectual analysis, and particularly as a means of training the pupil in the effective employment of his own tongue.

To return now from this digression, the purpose of which will be apparent, to a consideration of the mode in which

[6] This is practically true, though Greek *may* be offered instead.

children acquire their own language or a new one; let us assume that an American boy of ten goes abroad and resides at Paris or Berlin. It is a familiar fact that such a boy rapidly acquires a certain command of French or German. To the person who has no oral mastery of those languages the performance of such a youth after a year's foreign residence would be impressive to a degree. But what has the lad really acquired, and what is the significance of his acquisition from the purely educational point of view? The actual acquisition does not necessarily go beyond a capacity to express the limited range of his ordinary ideas. His vocabulary is small, while, as regards the educational worth of his new-found capacity, it has given him no mental stimulus, no new powers of discrimination or analysis. Least of all has it given him any increased mastery over his own language. In fact, as he has become subjectively familiar with a new tongue, the chances are that he has proportionately lost command of his own. Educationally the boy's new acquisition apparently marks no positive intellectual gain, nor could it fairly be expected to do so. For the process of acquisition has been purely imitative or practically so; and such a boy might go on indefinitely, learning a new language a year in the same way, without essentially strengthening his intellectual fiber or increasing his intellectual range. Educational processes, after the very earliest years, are no longer imitative. They are rather discriminative and constructive. They must involve comparison and judgment, and no employment of the pupils' attention which ignores this principle can be expected to yield fruit of value.

Those, now, who insist so strenuously on the importance of the direct subjective interpretation of Latin at the very outset of the study seem to me to advocate the acquisition of something which in the first place can be attained only by an imitative process, and which, even if attained, is not likely to be of any greater educational utility than the capacity to understand colloquial French or German, which

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an American lad might acquire by a moderate period of foreign residence. If, now, Latin is to be retained as a basal subject of instruction in our schools, is it desirable that the pupil be initiated at the outset into a subjective apprehension of the language? Would not the chief usefulness of Latin as an instrument of intellectual discipline vanish the moment the mind of the pupil passed from the objective to the subjective contemplation of the language? So soon as such a transition was effected all need of translation would at once disappear, and with it those minute and searching mental processes which now constitute the most important functions of the study, and which give it its superior title to a place in the curriculum of our schools.

In all this discussion I have been conceding what I really believe to be impossible, viz., the acquisition in the secondary school of the power to feel Latin as Latin. My own conviction is that relatively little can be done in the school in this direction, even under favorable conditions. So much time must of necessity be spent in objective study of the language—in acquiring pronunciation, learning forms, acquiring vocabulary, analyzing words, tracing their history and meaning, studying syntax, writing Latin, etc.—so much time is of necessity spent in these ways, that only the scantiest remnant of time, if any at all, is left for other things. Latin, therefore, can become subjective to us only gradually.

This is true of any modern language, even under favorable conditions. It takes in the aggregate a long time—longer than can ever be available in the schools—to learn to think and feel in French or German, even when one hears those languages constantly spoken. How much more difficult must it be to do the same in the case of Latin, which we not only do not hear spoken, but practically not even pronounced to any extent worth mentioning—a language, too, whose entire idiom is so much more at variance with ours than is either of the modern languages just mentioned. One other fact also remains to be considered: "Latin" is an elastic term. "French" and "German," on the other hand, are definite

and precise concepts, or relatively so. When we say "French" or "German" we mean the French or German of to-day—of a single period. Latin may be the Latin of Plautus or the Latin of Suetonius, and between the two is an interval of nearly four centuries, containing writers of widely different style, vocabulary, syntax, word-order, sentence structure, etc. The vastness of the difference between many of these various writers we often fail to appreciate, simply because it is so difficult for us to acquire an actual feeling for a language which we do not speak. But these differences exist, and they augment enormously the difficulties of acquiring a sense for Latin as Latin, especially in the beginner; for with a new author and a new period we practically come upon a new language. Latin is not one language, but virtually several, according to its various periods and its various representatives.

All these difficulties and embarrassments must be frankly faced when it is seriously proposed to teach pupils in the secondary schools a sense for Latin as Latin, and to make the acquisition of that capacity the prime end of Latin study at that stage. It is very easy to recommend such a programme, and even to tell how it should be carried out. Thus Mr. Hale tells us that the mind should "hold in suspense"; but the human mind is a peculiar organism. It is very obstinate, for one thing. It has laws of operation which, when they become habitual, it is well-nigh impossible to alter. It is one thing to be told we are to hold in suspense; it is quite a different thing to hold something in suspense. Similarly, Professor Greenough urges us to force the mind to make a mental picture, whether the given order is familiar or not. I am free to confess that, so far as the secondary schools are concerned, I believe both Mr. Hale and Mr. Greenough to be wrong. I do not believe that the true way to get a feeling for Latin is *by any conscious process*—least of all by any conscious forcing process, as Mr. Greenough would have us believe. Moreover, both Mr. Hale and Mr. Greenough seem to me to lay too much emphasis upon the relative

greatness of the difficulty resulting from the peculiar word-order of the Latin. Undoubtedly the word-order does constitute one great obstacle to the pupil; but it is far from being the only one or, to my mind, the greatest. The reason why pupils fail to "hold in suspense" or to gain a "mental picture" is not that they are frustrated by a perplexing word-order. My own experience with elementary pupils has shown me that they are ignorant of the meanings of words, they fail to apprehend the force of inflections, they have hazy or inaccurate conceptions of syntactical possibilities, they are not adequately informed as to the subject matter with which the Latin text is concerned. Under such circumstances there are apt to be so many elements to be held in suspense that the total of possible combinations, resulting from the numerous individual points of uncertainty, is so great that no mind can begin to carry them. My judgment, therefore, is that capacity to understand Latin as Latin and to interpret it directly must be a matter of growth. It cannot come until one becomes exceedingly familiar with individual words, for one thing; so familiar that the word is no longer objective, but subjective, so that, as soon as uttered, its whole meaning involuntarily flashes before us. So, too, we must come by long practice to feel the exact force of inflection, and of all the numerous variations of mood, tense, voice, case, etc. A keen appreciation for word-order must also have been developed as a result of repeated observations of its significance. But all this takes time, and a great deal of time. Yet until it has been accomplished I fail to see how one can be said to have learned to read at sight, in the sense of directly interpreting a classical text. A pupil cannot do this until Latin becomes something subjective to him, just as his own language is. But as long as the process is conscious, Latin must necessarily remain something objective; and the process is conscious just so long as one suspends or forces. Only then, does it seem to me, can one read Latin as Latin and interpret it directly when the process has become thoroughly unconscious; and I do not

believe that, in the way one must necessarily study Latin, this stage can become more than incipient in the secondary school.

Notwithstanding all this, a gradual acquisition of the subjective apprehension of Latin is inevitable. By the end of a four years' course in the secondary school the student will be able to apprehend much simple Latin in this way. The majority of his work, however, up to that time will necessarily be objective—fortunately so, in my opinion. But by the end of his secondary training and the beginning of a collegiate course (for the few who pursue this), I am convinced that the more rapid progress the pupil can make toward a more subjective appreciation of the language, the better. Then, if ever, should attention be devoted to special devices for cultivating the particular power under discussion. But even without cultivation it is bound to come to everyone who reads, and I believe it will come all the sooner ultimately to those students who, in their secondary training, have most assiduously cultivated objective methods of study.

Passing to "translation at sight," the most important question confronting us is how far it should be made the basis of college admission tests. Some advocate making such translation (combined with the writing of Latin) the sole test of the candidate's knowledge, to the exclusion of any examination upon prescribed work. Against an examination upon prescribed authors, it is urged that such a test is *quantitative*, whereas an examination on a passage set for translation at sight is *qualitative*. Such a comparison, however, seems to me exceedingly unfair. To characterize an examination upon prescribed work *as essentially* quantitative implies that its primary object is to discover how *much* has been read, combined with the policy of accepting or rejecting the candidate, according as the amount is found to be great or small. No one seriously supposes any such thing for a moment. As a matter of fact an examination upon prescribed work is, and has always been, primarily a qualitative test. The essential difference between such an ex-

amination and an examination on translation at sight is not that one is qualitative and the other quantitative, but that, both being qualitative, the range of selection is somewhat greater in the one case than in the other. My own objections against an exclusive sight test are based quite as much on the practical effects of the system as upon any theoretical grounds. Practically, I believe the tendency of such a test is to lead many teachers to employ the time of their classes on the rapid reading of large amounts, and consequently to fail in imparting to their pupils that precise knowledge of the grammar and that fine feeling for the language which are so indispensable to true scholarship. This I believe, because I find no other cause which accounts so well for the deterioration in the quality of classical preparatory training which is now so generally admitted and deplored. In the secondary instruction in Latin I am convinced that the greatest danger at present is that of slovenly, superficial work. In the eager quest of the magic power to "translate at sight" it is all too easy to lose sight of the most indispensable conditions of ever attaining proficiency in the language—viz., a painfully thorough grammatical discipline. At no period in a four years' course do I think such discipline should for a moment be relaxed. It is with learning to read a classical language as it is with learning to play a musical instrument. The technique of the art cannot be neglected, and he who is the most perfect master of technique will be the surest of making a player in the end—at least he will never make a player without it. So in reading Latin, the process is not one of divination, but of sober inference from positive knowledge of the meanings of words, the force of inflections, word-order, and the subtleties of syntax; and no one who is not master of these can any more "translate at sight" than he can read music at sight without having previously mastered the technique of the particular instrument on which he wishes to perform.

Another practical objection to the plan of an exclusive sight test is the great difficulty in setting passages which

are just and fair. I base this conclusion partly on a comparison of passages actually given at different institutions, and partly on my experience as a secondary teacher and a college professor. It is no exaggeration to say that passages are often set which, in view of their inherent difficulty and the absence of the context, are altogether beyond the power of any ordinary pupil; in fact, it is no secret that the secondary teacher is sometimes seriously puzzled to interpret a passage set for his pupils at a college examination.

If a sight test is to be made the basis, wholly or partially, of a college entrance examination, I should recommend as the best possible preparation for such a test the most careful and thorough preparation of the traditional prescribed authors, Cæsar (or Nepos), Cicero, and Vergil. The pupil who has faithfully and accurately studied his four books of the *Gallic war*, his seven speeches of Cicero, and his six or eight books of the *Æneid* need have no fear of any passage set him for translation at sight that ought to be put before a candidate for admission to college. It is because so many teachers fail to see this, and because the colleges so often set too difficult passages, that new "methods" are becoming prevalent and are vitiating the quality of preparatory Latin teaching.

With a definite amount of time at our disposal only two possibilities present themselves to me, either the traditional prescribed authors and honest work, or an increase of the amount read and a consequent lowering of quality. I leave it to the candid judgment of all teachers which course is likely to prove the better, either for the student who is to end his Latin study in the secondary school or for the prospective collegian.

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VII

DISCUSSIONS

EDUCATION AT THE PSYCHOLOGICAL CONGRESS

The Third International Congress for Psychology met at Munich, August 4 to 8. About four hundred members were in attendance and about one hundred papers were presented. The papers were read in general and sectional meetings, the division of the work into sections being as follows: Section I, Anatomy and psychology of the brain and sense organs; Psychology of the senses; Psychophysics. Section II, Psychology of the normal individual. Section III, Pathological and criminal psychology. Section IV, Psychology of dreams, hypnotism, etc. Section V, Comparative and educational psychology.

Of the new papers read at the general sessions, two were educational, and in the section devoted to comparative and educational psychology over half of the twenty-eight papers announced were on educational topics; of this number, however, only eight were read.

A short account of some of these papers follows:

Professor W. Preyer of Wiesbaden, author of *The mind of the child*, spoke on child-psychology. He deplored the fact that this part of psychology, the investigation of mental development, had been almost entirely neglected. He thought two things accounted for this, (1) the mechanical interpretation we wished to put upon everything and (2) the preference, as in other sciences, for experimenting; observation, in fact, under artificially produced conditions. Yet, he said, child-psychology offers an unlimited field for experiment and observation. He then told how we could study the child, the movements of his muscles, the movements of his body, his judgments of space, his manner of becoming acquainted with natural facts. Psychic facts are here seen in their simplest and undisguised forms, and their

slow, continuous, regular development makes them of immense importance toward the elucidation of our more mature mental states. At first, in his psychic life the child cannot be distinguished from an animal; he has no reason, no will, nothing but instinct. However, in a year he learns so much that the animal in no part of its development ever approaches him.

So the study of the child, together with comparative psychology, is and will be of the greatest importance for the knowledge of the complete psychic life of man, for in him is to be found the story of the whole mental development of the race. Preyer concluded with the hope that this appeal of his would contribute something toward rousing up more workers for this physiological-psychological observation of children.

Professor H. Ebbinghaus of the University of Breslau described some experiments on a new method of testing mental ability and its application to school children. He had made tests with children under the present school conditions, and found in their changing ability to memorize and to perform other school tasks that much time was being wasted from having the periods of work too long. His experiments showed that a rest of at least fifteen minutes between the hour's work increased accuracy, speed, and general mental ability.

J. Friedrich of Würzburg presented some results of a similar character. He had experimented with a class (fifty) of children, ten years old, testing accuracy by having them write from dictation difficult sentences and calculate arithmetical problems. These experiments were made under the following varying conditions, (*a*) before the beginning of the morning session; (*b*) after the first hour's work; (*c*) after the second hour, with a rest of eight minutes between the first and second hours; (*d*) after the second hour, but with no rest; (*e*) after the third hour, rests of fifteen minutes between the hours; (*f*) after the third hour, with rest only between the second and third; (*g*) after third hour, with no rests; (*h*) beginning of afternoon session; (*j*) after first hour; (*k*) after second hour, with rest of fifteen minutes between the first

and second; (*l*) after the second hour, but with no rest. The percentage of errors rose from the most favorable condition (before the morning school session) when it was 2 per cent. to 17 per cent. after the condition (*g*). This latter was reduced almost by half when the rests were taken, condition (*e*). The afternoon session showed the same general results, but the fatigue was here more rapid after the second hour, condition (*l*), there being the same percentage as there was for the condition (*g*) in the morning, thus showing that the noon recess did not give a complete rest. The practical conclusions drawn by the speaker from his experiments were (1) that continual work for sixty minutes is too long, (2) that between the hours there should be a rest of at least ten minutes. These pauses might be filled with bodily exercises, breathings, etc., (3) the afternoon work (if there should be any) should consist only of light work, writing, drawing, singing, etc.

Dr. C. Andreaa of Kaiserlautern discussed the value and the necessity of psychological training of teachers, and showed of what this should consist. He must have a proper knowledge of the psychic development of the child and of normal psychology. Here he should know that bodily conditions have their psychic value and that industry, obedience, interest as well as attention, memory, and ability to comprehend are all conditioned by bodily states. Then, too, social psychology was necessary; the relation of men to one another must be studied, for without this there can be no real understanding of the history of education.

Training should not end here, however; there should be an application of this knowledge. Just as the physician must have his clinics in which to acquire skill, so must the teacher have his workshop in which to put into practice his theoretical knowledge.

Love for the young may be the principal sign of a pedagogic call, but the teacher without the assistance of psychological knowledge and training would be lame and weak.

Dr. J. W. David, editor of the *Pädagogische Revue* (Warsaw, Russia), told of some experiments on the contents of children's minds. He chose 136 ideas and things of daily

life—animals, plants, minerals, home relations, occupations, natural occurrences, etc.—and found a gradual increase in the number of such ideas as the children grew older. The following table shows this increase:

Age	6	7	8	9	10	11	12
Average number of ideas	80	85	93	99	102	110	106

The percentage of increase from year to year was thus as follows:

Years	6/7	7/8	8/9	9/10	10/11	11/12
Increase	6.2%	9.4%	6.4%	3.%	7.8%	−3.6%

He compared these increases with bodily changes (weight and lung-capacity) during the same period and found the two to be in inverse ratio, the growth of the body seeming to retard to some extent the mental development.

Dr. Arie de Jong, of The Hague, considered the value of suggestion and hypnotism as educational aids. It is certain that suggestion is an important factor in our education, but there are cases where ordinary suggestion does not suffice. These character perversions which are in many cases due to immoral or insufficient moral suggestion de Jong would treat with hypnotic suggestion. By this method he found that perversions not only have been improved but their further development has been stopped.

The following were the other educational papers read:

Professor W. Preyer, "Individuality in handwriting"; Dr. C. Ufer, "Handwriting and individuality in school children"; Dr. M. Offner, "The origin of errors in writing."

Papers had also been announced by Professor Ziehen, T. Anfosso, and Edgar Bérillon, but owing to the absence of their authors were not read.

It was decided to hold the next congress in 1900, at Paris, under the presidency of Professor Th. Ribot.

S. I. Franz

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THE GROWTH OF THE HUMAN BODY

In the scientific world, great attention has been paid to the question of the growth of the human body. The results obtained by these researches are both instructive and interesting. I shall here try to indicate some of them, for they are not only of scientific and curious, but also of practical interest. The practical side is shown in one way, when we find that in European countries a special size or shape of shoe, hat, or glove is made for the American trade and for local custom where there are large colonies of Americans. Some people have been surprised while in Germany, by having their hatter remark that they were Americans, and to learn that the information was given from the shape of the head. So again this subject shows its practical side when we come to consider the question of child labor and its effect upon the physical, as well as the intellectual and moral growth of the child. Again, and this will perhaps be in a most unexpected quarter, we find it becoming entirely practical in its aspect when we apply it to school children. For this is but a modification of the part immediately preceding, it is child labor again, only intellectual instead of physical. And although the causes seem so entirely separated, almost diametrically opposed, yet they are almost identical in their consequences; and we find ourselves returning once more to the wise old saying, *Mens sana in corpore sano.*

Observations have been made over a long period of time in Europe, including Great Britain, and in the United States. Some of the results of these investigations it is my intention to notice in this paper. I shall use as a basis the results of my work on the Worcester children carried out in 1891 and 1892. I shall confine myself to the following measurements: stature, sitting height, weight, and the proportion of sitting height to stature. These are the measurements that have been most universally made; therefore there is a larger material upon which to draw, and the results are correspondingly interesting and instructive.

Taking these points in their natural order: The stature of children of both sexes, up to about twelve years of age, seems to be about equal. There are, it is true, differences in the averages of boys and girls for each year, but they are slight, and the superiority vacillates from one sex to the other, with

such absolute irregularity as to leave little doubt that the apparent differences owe their origin to the small number of cases observed, rather than to any real difference of stature between the sexes at the age under discussion. It is, however, possible that there is a slight increase in stature of girls over boys, at the beginning of the second dentition, similar to that which occurs at puberty. The indications are nevertheless so slight as to leave the point in great uncertainty. At twelve years of age there is a sharp and sudden change, and we find the stature of the girls to exceed that of boys by nearly two inches; and by referring back to the stature at eleven years we find that the girls have made the phenomenal growth of over two and a half inches in one year. This ratio of growth is not sustained, the rate dropping back to the normal annual rate of increase in the next year, while the boys in their turn shoot rapidly up, with the result that at fourteen boys are again the taller. By eighteen girls seem, as a rule, to have completed their development so far as concerns increase in stature, but it seems evident that the boys continue to grow for some years, perhaps ten or fifteen, longer.

If we examine the results with regard to sitting height (*i. e.*, the height of the body to the top of the head, the subject being seated on a chair, from the seat of which the measurement is made), we find the same general results; only the girl's sitting height exceeds the boy's for a longer period, namely, from about eleven to fourteen, and further that, while the total stature of adult males is considerably greater than that of adult females, about four inches and a quarter, the difference in height sitting is only about two inches.

Comparing the sitting height to the total stature, we find that, until about twelve years in the case of girls and about fifteen in the case of boys, the total stature increases more rapidly than the sitting height, but that after those ages the sitting height increases the more rapidly. This means that the greater part of the growth is accomplished in the lower limbs until those ages, while after those ages the greater growth is in the trunk. We find further that, throughout the whole period of growth, the trunk grows more rapidly in proportion to the stature among girls than among boys. At all times the head and trunk make up more than fifty per cent. of the stature; among boys this varies between 51.75 per cent. and 55.3 per cent., and among girls between 52.5 per cent. and 55.5

per cent., but after eleven years of age the percentage of girls is not less than 52.5 per cent., rising at eighteen to 53.5 per cent., while boys are at least one per cent. lower. These proportions seem to be a characteristic of the sexes among the whites.

The phenomena that characterize the growth in stature appear in the growth in weight; the difference being that the boys are at all times heavier than the girls, except between twelve and thirteen, when the girls are very slightly heavier, These phenomena seem, in fact, to characterize the growth of all the parts of the body to a more or less marked degree. Throughout the whole period of growth the girls seem to be about one year in advance of the boys in their development. This fact is especially well marked in the case of puberty and its attendant phenomenal increase in physical development, which is seen a year earlier in the case of girls than in that of boys.

Hitherto I have been speaking of the average stature, weight, etc. These averages are obtained by adding up the actual stature or weight, etc., of all individuals of the same sex and age, and dividing the sum by the number of individuals; the result is the "average." It will be seen at once that this does not represent the actual measurement of more than very few of the individuals of the group, the greater number of them being either greater or less than the average. Nevertheless, the greater number of cases in a large group are very near the average on one side or the other. This distribution of cases is measured by the "mean variation," which is roughly the limits on each side of the average within which sixty-six per cent. of the individuals are included. These limits of distribution vary considerably, according to the age of the group. Thus they are very narrow at three or four years of age, and at their widest at twelve or thirteen, the age of puberty, and are narrower again among adults. To illustrate this question of mean variation, suppose we had 169 individuals, one of whom corresponded to stature 1, 2 to stature 2, 3 to stature 3, etc., up to 13 to stature 13, then 12 to stature 14, 11 to stature 15, etc., down to 1 to stature 25. In this case stature 13 would be the average, and statures 8 and 18 would be the limits of the mean variation; two-thirds of the individuals falling within those limits. As a matter of fact, the distribution is never as regular as this; the mathematical average seldom corresponding to the average of cases. Thus "thirteen" might in some cases

represent but 10 individuals, in others 40, there being a similar variation in the other numbers. There would be a consequent heightening or flattening of the curve representing this distribution, with a concurrent lengthening or contracing. To take actual cases, we find among the Worcester children that two-thirds of the individuals among boys of six years of age are found within the limits of 1½ inch on each side of the average stature; among those of fifteen the limits are 3½ inches on each side of the average, falling again to 2½ inches at eighteen. This shows what a great difference there is in the rate of growth of children at different ages, this difference increasing until it reaches its maximum at puberty, decreasing again as we approach the adult stage. We also find that there is a disposition of a smaller number of children to lag unduly behind the average over those who push unduly ahead of it, before puberty, than after puberty. It is found, as a rule, that the limits of distribution are wider among boys than among girls, but at the age when girls exceed boys in their development, they also exceed them in the mean variation.

Perhaps the points of greatest interest will be brought out by a comparison between different populations, or different classes of the same population. Here, unfortunately, I can only deal with "averages." I have already spoken of the differences shown by boys and girls of the city of Worcester. Taking these as the norm, let us compare the results of other investigators in other localities. We have here four different points of comparison; *i. e.*, between different nationalities in different localities, different nationalities in the same localities, the same nationalities in different localities, and different classes of the same nationalities in the same localities. For the second and the third of these comparisons, the United States affords unrivaled opportunities, because of the extent of its territory and the large number of immigrants which make up its inhabitants.

A comparison between American and European children shows that the American children are the better developed, the Irish, English, and German children following in the order given. When we come to compare children born in this country of Irish, English, or German parentage with children of American parentage, we find the American still the taller, but a comparison of the former children with those of the same parentage born in Europe, we find the American-born chil-

dren, notwithstanding their immediate European ancestry, the taller. Here we find the conservative influence of race to a certain extent overcome by the influence of environment. A comparison of the development of the children of those American cities which have been examined shows a marked increase in the physical development of children as we advance westward. We have a further evidence of the beneficial influence of environment upon physical development from the investigations of Roberts in England, Key in Sweden, and Bowditch in Boston. As I have said, the English children, as a whole, stand well down in the list, but if we divide them into classes, we obtain a different result. We then find the leisure class, the nobility, etc., standing higher than the American children. Next in order is the middle class, whose development corresponds more nearly to that of the American children; after these come the factory operatives and laboring classes. The evidence furnished by Key and Bowditch was developed from a consideration of the children of the Swedish high and common schools and the Boston private and grammar schools. The Swedish high-school and the Boston private-school children are, of course, members of the more well-to-do portion of the community, while those of the common schools are, in a large degree at least, of the poorer class. It will therefore not be a matter of surprise that in the former schools the children are much better developed. We also find that apparently where the conditions of development are the best that the period of growth is reduced to a minimum. This we find to be the case, for example, in the Amherst gynmasium students.

A very curious fact is brought out by a comparison of the development of boys with that of girls. We have seen, among the Worcester children, that for a certain period, about two years, the girls exceed the boys in their physical development; this is generally true, as I have said, but there are two or three instances which would seem to suggest that under different conditions this would be no longer true. Quetelet selected several children of both sexes whom he considered to be perfectly developed, and measured them from year to year until they were grown. At no time did these girls exceed the boys in their development. In Roberts's first class we find also that the girls exceed the boys in stature for only the shortest possible period. It is not possible satisfactorily to explain this, but it would seem as if this overlapping of the

boys by the girls is a phenomenon suggestive of defective hygienic conditions with regard to the boys. Further confirmation is given to this by the fact that the lower classes of Roberts's tables show this phenomenon of crossing in the most marked degree.

Finally, I shall touch upon the effect of school life upon the physical development of children. These observations were made upon the Toronto school children; the material being divided into "good" and "poor" scholars, according to the estimation of their teachers. We find the poor scholars to be almost invariably the better developed, the difference being more marked in stature than in weight. The probable explanation of this is that the children adjudged the more able by the teachers give more time to study and less time to exercise than do the other students. This applies to girls as well as to boys.

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VIII

REVIEWS

History of philosophy—By ALFRED WEBER, translated by FRANK THILLY. New York: Charles Scribner's Sons, 1896. 629 p. $2.00.

With Windelband, Zeller, and Falckenberg already in possession of the field, a new history of philosophy must present pretty strong evidence of value if it is to obtain recognition. It must not only be the product of sound scholarship, but it must present some distinctly new and valuable feature if its existence is to be justified. In style and scholarship Windelband's general history leaves nothing to be desired, while its suggestiveness makes it a valuable book as well for the general, as for the professional, reader. And yet, in spite of the excellence of this and other already existing works, Professor Thilly has done us good service in translating a new history of philosophy.

None of the histories we have hitherto had have been wholly satisfactory as text-books. Zeller and Falckenberg must be combined to give us a complete work, and even then the important period of the Middle Ages is omitted. Windelband is complete, but he is difficult for the average college senior. His method of treatment by problems, while extremely interesting, makes it hard to use the work in the classroom. It is impossible for a lecturer to follow such a disconnected order, and it is inconvenient for the student if lectures and text-book are not in methodical agreement.

Professor Weber has succeeded in this difficult task of writing a text-book in the history of philosophy. He makes no claim to special originality of method, but he does give us a clear and direct presentation of the history of thought from Thales to Wundt. And in doing this he avoids the two difficulties which beset his path. He neither confuses the student with those complexities of doctrine which he

cannot yet understand, nor does he so condense his account that the history becomes nothing but a bare record of facts. He singles out the ideas distinctive of the successive systems and selects his facts with reference to these. The result is that, while we sometimes miss details which we might have desired to find, we have given us in return a distinct view of the whole which more details might have marred. The treatment is decidedly artistic. The book is thus not one to which we should go for the facts of any system, but for this very reason it is an admirable introduction to philosophy. What the student needs to know is not the details, but the genesis and meaning of the fundamental ideas which go to make up modern thought, and this knowledge Professor Weber's work gives him in the simplest and clearest form.

More than half of the six hundred pages in the book is devoted to modern philosophy, two-thirds of the remainder to Greek, and the rest to mediæval thought. One ought not to quarrel with an author for his division of the limited space he has allowed himself, yet it must be confessed that in this case the result is not quite all we should desire. It is true that we are chiefly interested in the thought of to-day, but it is also true that it is impossible to understand this thought without a thorough knowledge of its Greek roots. It is poor economy to hurry over the beginnings of philosophy in order to reach that which is of more immediate interest. A page in the beginning saves nine in the end. By way of compensation, however, we have an interesting account of the tendencies in the thought of to-day.

It is probably also due to lack of space that the author is compelled to omit all mention of the physical and political background of philosophy. Students of philosophy are supposed to know their ancient history and geography, but in most cases this knowledge is very hazy, and the students are few who are able to apply it to the explanation of intellectual conditions. A few pages of such introduction would have added considerably to the practical value of the work.

One of the peculiar merits of Professor Weber's treatise is that its philosophic basis is distinctly stated. Every his-

tory has its underlying principle, and it is a satisfaction to have it openly avowed, and not concealed under the guise of studied objectivity. When we have followed an author through the history of three thousand years of changing thought, we naturally wish to know what he has found to be the permanent gain in this development. It is perhaps of equal importance for us to know in which direction his sympathies lie. Our author devotes a closing section to a statement of his philosophic creed. It is that of Schopenhauer, minus his pessimism. The will is the fundamental reality in things, at first a mere will-to-be, then a conscious striving after the good (*Wille zum Guten*). The monism of the will is the synthesis toward which reason, experience, and conscience, the three factors in European philosophy, are tending. Parmenides, Plotinus, and Spinoza show us the essential unity in things; Heraclitus, Leibniz, and Schelling insist on the reality of struggle, effort, or will; Plato, Kant, and Fichte reveal the ultimate end of the universal becoming; while Aristotle, Descartes, and Hegel teach that nature is an evolution, of which infinite perfection is both the motive force and the highest goal. But while the author's view is thus definitely stated, it seems in no case to have influenced unduly his historic judgments.

The translator has done his work well. A few careless constructions are to be found, but, in general, the work reads smoothly and pleasantly. He has also increased the value of the book by completing the references and adding a bibliography of some of the chief works in recent philosophy. It is true, the bibliography is only a list of names without comment, the value of which for the general student is doubtful. There are also several striking omissions in it, but the list may be of use to someone, and does no harm. The book itself is of convenient size and shape, and the print and binding good, so that on the whole it forms the most suitable manual we have yet had for classroom use.

NORMAN WILDE

COLUMBIA UNIVERSITY

Memoirs of Frederick A. P. Barnard, D. D., LL. D., L. H. D., D. C. L., tenth President of Columbia College in the City of New York.—By JOHN FULTON. New York: Published for the Columbia University Press by The Macmillan Co., 1896. P. xii, 485. $4.00.

Dr. Fulton has largely illustrated President Barnard's career with selections from his writings. The biographer has shown excellent judgment in making the selections. His comments are eminently judicious. He is by no means given over to wholesale adulation. Dr. Barnard is presented as he was, so far as a man's recorded utterances may display his individuality. And these utterances, read in the light of Dr. Fulton's comments and explanations, reveal a man of great force of character, of great attainments, and of great achievements.

As Dr. Barnard was born in 1809 and lived to 1889, and as he was actively engaged in educational work for sixty years, it is not surprising to find that the interest in this book is largely pedagogical. Nor, when the fact is recalled that these sixty years witnessed a complete reorganization of the school and college curriculum in this country, a revolution in educational method, and the birth and development of the university proper in America, is it surprising that this volume should be a most important contribution to educational history? Dr. Barnard's life is interesting because of his heroic struggle, in the face of enormous difficulties, to compass great achievements; but it is all the more interesting because it was a part—a leading part—of a great national movement in the development of our educational system.

This great national movement in education comprises many issues; but perhaps the more important are the extension of educational work on the part of the State from elementary schools to secondary schools and State universities; the establishment of strictly scientific schools; the liberalizing of the old college curriculum of classics and mathematics by the introduction of natural science, modern languages, and English literature; the enrichment of the elementary school curriculum; the introduction of the elective system in secondary schools and colleges; the development of post-graduate courses and through these the

establishment of real universities; the admission of women to the higher education; a change in educational method which, by whatever name called, means that the student is to think and to do, not merely to memorize; and, lastly, the establishment of normal schools and pedagogical departments in universities for the training of teachers in the science and art of education. There is none of these reforms of which Dr. Barnard was not at some period of his life a strenuous advocate; none in whose accomplishment he did not bear a considerable part.

Anything like a complete *résumé* of the contents of this volume would be impossible in these pages. It must suffice to call attention to a few salient points, which may serve as indications of the rich feast that awaits the reader.

Dr. Barnard's school education, conducted as it was on lines that are not yet quite obsolete, he regarded as of little or no value, if not positively injurious. Fortunately, he was saved from its deadening effects by the wise training given by his mother, by a love of good reading, and by an extraordinary manual dexterity that led him to conquer unaided the problems of the carpenter's craft and the mysteries of the printer's art. The teacher who desires to avoid the worst mistakes in teaching would do well to read Dr. Barnard's account of his various schools and schoolmasters.

When he had completed his college course in Yale in 1828, he was appointed a teacher in the Hartford Grammar School. He has himself recorded his experience in this position. It should be read by every young teacher.

In 1830 he became a tutor in Yale. Even at that date the system still prevailed under which the students of the first three years were taught by tutors and not by professors. A section of a class was assigned to each tutor, and the tutor instructed this section in all the subjects of the course. It was Barnard's first great educational achievement to induce the authorities of his Alma Mater to introduce the departmental system and allow each tutor to teach that subject in which he was best qualified to give instruction.

About this time his hearing became affected and for some

years he was compelled to struggle—and a heroic struggle it was—against the conviction that he was destined to become totally deaf. This conviction it was that led him to resign his tutorship at Yale in order to become a teacher in the American Institute for the Deaf and Dumb at Hartford, and afterward in the New York Institute for the training of deaf-mutes. In these schools he not only mastered the science of educating the deaf and the mute as it was then known, but became one of the most efficient teachers of that art. Here, too, he was led for the first time to see the necessity of professional training for those who are to teach.

During these years of what might be called preliminary educational work, Barnard had been a most industrious student. Since leaving college he had acquired by his own efforts the power of reading French, German, Spanish, and Italian, and had prosecuted with zeal his favorite studies of higher mathematics, natural philosophy, and chemistry, so that when, in 1838, he was called to the chair of mathematics and natural philosophy in the University of Alabama, he was amply prepared to perform the duties of the position. It was in connection with the University of Alabama and afterward with the University of Mississippi, of which he was Chancellor from 1856 until the breaking out of the Civil War, that he did his great work in connection with our State university system. It is not too much to say that Dr. Barnard was largely instrumental in laying down the lines on which such great institutions as the universities of Michigan and Wisconsin have been developed.

But it is on his work as President of Columbia College that Dr. Barnard's fame must permanently rest. He was elected in 1864 and continued in office until 1888—a year before his death—when failing health constrained him to retire from active life. In 1864 Columbia College had just entered on that wide and varied domain of educational work which has since raised her to the highest rank among American universities. The School of Law had been established; but the work of placing the School of Mines on a sure foundation fell to the new president. Dr. Barnard saw

the opportunity for the growth of a great university in New York, and though, like all great men, he was somewhat in advance of his age and failed to realize many of his hopes, he yet lived to see much for which he had striven, accomplished. His words written in 1880, urging upon the Board of Trustees the establishment of a system of post-graduate instruction, are truly prophetic of what Columbia has since become. That, he said, "is the direction in which our institution is destined to make its usefulness principally felt. It is so because, in this principal city of our continent, which is yet perhaps to be the greatest city of the world, there is need of an institution which shall stand forth as the expositor and the representative of the highest learning. This institution, and no other, is capable of taking that high position, and must, by force of circumstances, be compelled to take it."

Among the many reforms which he urged and which he saw partially accomplished were the following: the removal of restraint and official surveillance over non-resident students; the admission of students to responsibility in the preservation of order; the reform of the old system of daily marking; the admission of students on certificate from accredited schools; the introduction of elective studies—a reform which he had opposed in the South; the admission of women to all departments of Columbia—the discussion of which led to the establishment, in connection with Columbia, of the noble college for women that bears his name; and the establishment of a department of Pedagogy in which should be taught the history, theory, and practice of education. The language of a minute adopted by the Board of Trustees on the occasion of his death, may adequately express his qualifications and his power as a college president: "For a quarter of a century he was at the head of Columbia College, a position for which he was particularly well fitted, not only by his learning and acuteness, but also his executive tact, his mastery of details, his insight into character, and his unfailing courtesy at all times and to all persons. His devotion to the welfare and advancement of the college was unspar-

ing. During his presidency, the gradual increase of means at its command led to a wide expansion of its efforts and methods in the various schools now under the care of this Board. Dr. Barnard's capacious intellect and broad culture enabled him to superintend this development with wisdom and skill."

This is not the place to speak of Dr. Barnard's varied attainments and discoveries in mathematics and science and his contributions to scientific literature, which alone would have been sufficient to confer eminence; but a word must be spared for his pedagogical writings. These are to be found chiefly in his official reports. There are few men who have written more strongly or more lucidly on college government, on the college curriculum, on the admission of women to all college and university privileges, on the training of teachers, and on the reform of the elementary curriculum. The more important parts of these writings are presented in the volume under review. They constitute a veritable mine of wealth to the seeker after educational truth.

Three attributes Dr. Barnard possessed in common with Arnold of Rugby which, in addition to his great natural power as a teacher and an executor, contributed very largely to his success in educational work: he was profoundly though not ostentatiously religious; he was zealous almost beyond measure in the pursuit of his favorite studies—mathematics and science—not merely for their own sake but because they kept his mind constantly fresh and open to the reception of new ideas; and he held himself always in touch with his fellow-men—with their hopes, fears, ambitions, achievements—in a word, with life. He was a better teacher because he was a student and a man of affairs.

His life work, which may be an example to all, is worthily recorded in this book.

W. H. M.

The common-school system of Germany: and its lessons to America—By LEVI SEELEY, Ph. D. New York: E. L. Kellogg & Co., 1896. 251 p. $1.50.

It is well known that the author of the above work is eminently fitted for the difficult task he has undertaken.

Dr. Seeley is one of our best known educators; he has spent ten years in the study of the German school system, four of these in Germany. As the suggestiveness of the book to the American can well testify, his knowledge of the American school system is equally thorough and critical. This fitness of the author for the work undertaken renders the work doubly attractive to the American reader, especially as the book aims to be much more than merely descriptive. The object of the book is not only to give an accurate picture of the German school system, as exemplified in the schools of Prussia, but also to draw lessons that can be applied in the American schools for their improvement. In justice to Dr. Seeley, be it noted that he does not seek to draw lessons for the American system, because his special object of student-devotion has been the system of Germany, nor because of any overweening reverence for the German method, but because of the conviction that in the solution of the constructive problems of education, the historical method must be fruitful of greater success and fewer errors. Such is, in fact, Mr. Seeley's method. Wherever he has found, in the historical development of his theme, certain features revealed which experience has repeatedly shown to be of universal significance and value, they are utilized for their universality. It seems to us that this attitude toward our own school system, and toward the school systems of the world, cannot but be of very great value to us in our educational future. Those who are at all familiar with the history of our own educational system, and who have become aware of its weaknesses, will undoubtedly sympathize with Dr. Seeley in the chief lessons he seeks to draw from his study of the German system: (1) that all teachers must be professionally trained and therefore have a professional standing; (2) that they must receive permanent appointments; and (3) that children of lawful school age must attend school every day of the year that it is in session; the parents being held accountable for such attendance. A large share of the book centers around the proposition that these three features have contributed, more than almost anything else, toward the success of the German school system.

The opening chapters of the work are devoted to a history of the development of the German school system, more especially of the Volksschule. The student of educational history will recognize at once the difficulty of bringing within so short a compass any adequate presentation of the genesis of a system that has been dependent upon political and religious revolutions, upon almost all the modern impulses of culture, including modern industrial and social movements. Such is, in fact, the task which Dr. Seeley has undertaken and accomplished with success. All of the great movements have been given their place in the development and their bearing upon the schools clearly shown, while the host of non-essential data that would weary the American reader seem to have been successfully eliminated. The reader follows with pleasure, in their influence upon the German schools, such familiar personalities as Charlemagne, Luther, Comenius, Duke Ernst of Gotha, Rousseau, Frederick William I., Frederick the Great, Pestalozzi, Froebel, the Pietists, and many others. With them are associated also, in their influence upon the school development, such great movements as the Reformation, the Thirty Years' War, the Renaissance, and, in closing, the influence of the modern philosophical and scientific spirits. We have not space here even to epitomize this historical development, which has been brought within so brief a compass by the author.

The historical survey is followed by chapters descriptive of the present German school system. We shall be most concerned here with the conclusions which Dr. Seeley has to draw from present German conditions. In his study of the German school administrative system Mr. Seeley finds cause to make a strong plea for the recognition of our educational system in the national Cabinet, with powers to fix minimum standards for all schools, to require needed statistics, and to fix uniform college entrance requirements, with a fund for carrying on its work. Certainly this desire to give greater power and standing to our Commissioner of Education will be heartily indorsed by the majority of educators; despite minor points, in which they might differ from Mr. Seeley as

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to the specific powers to be conferred. A similar line of thought leads to the suggestion that the States establish, for similar reasons, State boards of education, after the plan of the New York State Board of Regents. So also it is recommended that boards be established in the next smaller divisions, county and township, with appropriate duties, and with executive officers. A strong argument is made for the advantages of the township organization plan. In connection with such an administrative system, Mr. Seeley urgently insists upon the need of greater permanence in office of school officials and teachers for the sake of the greater stability of the schools, and upon the absolute divorcement of all school interests from politics. Amen!

The author is equally radical upon the question of compulsory education. He is in favor of a thorough and complete compulsory educational law, with full provision for its enforcement. We can agree with him heartily, but the question as to how it shall be attained in this country seems to be difficult to answer, through legislation, with any finality. In Germany a good social practice can still be introduced by sheer force, long before its people realize its benefits. In time, when they have become conscious through experience that they have been reaping the benefits of fitting co-operative effort, they then, as in the cases of compulsory census and compulsory education, love and respect these features of their system. Our method of approach has always been different; it takes time for us to realize first that *we* are the government, that any social practice, backed by the law of democracy, is but the expression of our own will, and that compulsory laws, in a democratic form of government, are not, therefore, limitations of the individual, but rather guarantees of his rights. Does it not then follow, as the author thinks, that compulsory education is a logical concomitant of democracy; but is it not also ignorance of the powers and needs of democracy that renders it most difficult to secure compulsory legislation? We are constantly becoming more and more conscious that any social legislation, to be truly expressive of our American institutions, must be the outgrowth of the democratic con-

sciousness. Here would seem to lie the difficulty, at present, with some of Mr. Seeley's propositions.

An examination of the administration of schools in detail, and of the courses of study and methods of instruction in use, leads Mr. Seeley to the recognition of the following features as essential in any well-ordered system: official oversight of private as well as public schools, few examinations and promotion on the judgment of the teacher, one general plan of gradation to be followed out by the entire state, more instruction (*sensu stricto*) and less mere hearing of lessons by the teacher, greater use of object lessons (though in this respect the author claims that we have been as progressive as have the German teachers, if not more so). The author is a believer in the necessity of religious training as an integral factor of any well-rounded education; he finds that our present means for such training is wholly inadequate to meet the needs of all our children; he believes that the state should undertake to furnish such training by offering in the school courses in the history, literature, and moral truths of the Bible, and especially in the life of Christ. While many will agree with the premises here involved, not all will be able to agree with the author as to the feasibility of any such plan, even when adopted under the condition he suggests. Yet he has here brought us face to face with some facts which we cannot ignore. It is an age in which men of very different religious stamp are yet coming to the conclusion that religion is not something separate from, or antagonistic to, thought, learning, or science; that there is great need of harmony and unity among all the forces of life, where now there are often incongruity and disunion. Yet the unity and congruity which these different men would see brought about by no means reveal the concord necessary to attempt any such measure.

In further chapters the author brings out how much more complete and thorough are the training and examination of the German teacher, and in consequence how much higher their standing, and longer and more efficient their service. There is a valuable discussion of the teachers' seminaries, of pensions for teachers, of the girls' schools, of the present

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position of woman in education, of the status of the Kindergarten in Germany and of Institutions for the Unfortunate. Throughout the work, so far as we are able to judge, the facts and figures are carefully and exactly presented. One finds but little to take exception to, if he but considers the extent of the task that has been attempted in so brief a compass. The work has been carefully edited; but a few typographical errors appear, notably on pages 20 and 21. We are not inclined to agree with the views that no good has come from the visitation of schools in America by parents. The definition of *Raumlehre* on page 97 is vague, if not incorrect. Topic *d* on page 115, in the presentation of the Formal Steps of Herbart, seems to me to be wrongly interpreted as "review." Surely that is not Herbart's "system."

The most prominent and perhaps the most enjoyable feature of the book is probably the bold expression which the author gives to some very definite, incisive, and suggestive views.

NORMAL, ILL. C. C. VAN LIEW

NOTES ON NEW BOOKS.

Mention of books in this place does not preclude extended critical notice hereafter

English literary criticism, with an Introduction by C. E. Vaughan (imported by Charles Scribner's Sons. p. cii, 219. $1.50), presents masterpieces of English criticism by Sidney, Dryden, Johnson, Coleridge, Hazlitt, Lamb, Shelley, Carlyle, and Pater. The Introduction is itself an admirable example of the comparative and historical methods in criticism, tracing the evolution of criticism from its beginnings among the Elizabethans down to its most recent achievements.——Another book imported by Charles Scribner's Sons contains a selection of plays by Sir John Vanbrugh, editor, with an introduction and notes by A. E. H. Swaen. This volume—one of the "Mermaid Series"—will be welcomed by students of the more obscure fields of English literature; though it is scarcely suitable *virginibus puerisque* (New York: Charles Scribner's Sons, 1896. 501 pp. $1.25).

EDITORIAL

During the sessions of the National Educational Association at Buffalo the Joint Committee of Ten from the Departments of Higher and Secondary Education reported to a joint session of those departments the plan of work on the subject of college entrance requirements which appears below. This plan and the valuable tables showing existing conditions, collected for the committee by Dr. C. H. Thurber and published in the *School Review* for June last, were received by the joint session as a report of progress, and the committee was continued. The committee has fair hope of becoming an efficient agency for securing prompt discussion and action on the questions involved, and so far as conclusions arrived at by weighty authority sectionally seem adapted to national use, to win for them readier attention and adoption than they might otherwise meet.

Leading representatives of the New England, Middle States, North Central, Southern Associations of Colleges and Preparatory Schools, of the American Philological Association, and of the Science Department of the N. E. A., met in deliberation with the committee. The American Philological Association was invited to prepare for the use of the committee a course of secondary instruction in Latin and Greek. Twelve of the twenty-one persons present at the conference represented higher instruction, and nine secondary. The associations participating will probably give considerable space on their programmes for the coming year to the problems involved in the general subject; for carefully prepared material is at hand in abundance to serve as a basis for practical conclusions. The clear yet concise statements of the requirements desired and agreed upon by the group of universities, colleges, and secondary schools, represented at the Columbia conferences, are in pleasing contrast to the vague general statements which stand on the

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majority of college catalogues as they appear in this preliminary report of the committee.

The Science Department of the N. E. A. appointed a committee to take in hand requirements in the sciences, with the expectation of doing for them what has been done by the Columbia conferences for other subjects.

Uniformity of requirements, however, hardly suggests the vital questions at issue. The age limits of secondary, college, and university instruction; the lowering of the age for college entrance; the tendency to pass directly from secondary to professional instruction; the advanced age at which college graduates enter the professional schools; the ability of well-equipped secondary schools to do college work; credit for such work in the A. B. degree; relative weighing of subjects for purposes of substitution—these are the questions which the necessity of close articulation of secondary school, college, and university is bringing forcibly to the front. Every movement like this, that serves to crystallize educational opinion at well-defined centers of agreement, cannot fail to remove gradually by natural development the present rather chaotic condition.

Those who were present at the conferences were:

From the New England Association: Principal Ray Greene Huling, English High School, Cambridge, Mass.

From the Middle States Association: Melvil Dewey, Secretary of the University of the State of New York, Albany, N. Y.; Wilson Farrand, Newark Academy, Newark, N. J.

From the North Central Association: Superintendent C. B. Gilbert, St. Paul, Minn.; Principal F. L. Bliss, Detroit High School, Mich.; Principal Edward L. Harris, Central High School, Cleveland, O.

From the Southern Association: President George T. Winston, University of Texas, Austin, Texas; Principal W. H. Bartholomew, High School, Louisville, Ky.

From the Science Department of the N. E. A.: Professor Charles E. Bessey, University of Nebraska; Professor Charles S. Palmer, University of Colorado; Professor Tuttle, University of Virginia.

From the American Philological Association: Professor

Andrew F. West, College of New Jersey, Princeton, N. J.; Professor Francis W. Kelsey, University of Michigan, Ann Arbor Mich., and the following members of the Joint Committee: Professor Nicholas Murray Butler, Columbia University; Professor Elmer E. Brown, University of California, (acting by proxy for Professor Wm. Carey Jones of the same university); Professor James E. Russell, University of Colorado; Professor B. A. Hinsdale, University of Michigan; Dean C. H. Thurber, Morgan Park Academy, University of Chicago; Principal J. Remsen Bishop, Walnut Hills High School, Cincinnati, O.; Principal Wm. H. Smiley, High School, Denver, Col.

The plan of work for 1896--97, as agreed upon, is as follows:

It is within the province of the committee, according to the resolution passed at the Denver meeting, to investigate existing college entrance requirements and to report on ways and means of securing such uniformity in extent and method as will be conducive to the best interests both of higher and of secondary education. The first step—investigation of existing requirements—has been taken; in our opinion, the programme of the ensuing year should be chiefly as follows:

1. The committee should invite the active co-operation of associations already organized for the study of such problems; it should appoint representative subcommittees of specialists interested in the various subjects; it should ascertain the views of individual institutions,—secondary schools, colleges, and universities,—all with a view to the ultimate determination of what should constitute a normal requirement in each of the subjects set for admission to college.

2. To this end, it is recommended that the requirements be considered in the following groups: English, classical languages, modern languages, history, mathematics, and sciences.

3. Within the several groups, special attention should be given to what should constitute a year's work in each subject: (*e.g.*, first year: French; second year: French, physics, chemistry, etc.) or, as may be preferable in some groups, what should constitute the "elementary," and what the "advanced" requirements, and, in general, the constitution of entire courses of study in the separate subjects.

4. It is recommended that a schedule of options or equivalents within the various groups, or between separate groups, be prepared.

5. The committee should make special effort to secure a more satisfactory method of admission to college. The views of the associations, subcommittees, and institutions (above referred to) should be sought as to the best pedagogical means of testing the work done in preparation for college.

6. All partial reports should be submitted to the committee as early as possible, that a tentative report may be prepared for discussion at the next annual meeting of the N. E. A.

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7. The departments of higher and of secondary education, and of science, should be requested to make this subject a special order in their programme for the meetings in 1897.

8. It is evident that the work outlined cannot be done without the expenditure of a considerable sum of money. This committee should urge upon the departments of higher education, of secondary education, and of science, the necessity of petitioning the board of directors of the N. E. A. for an appropriation to be made, at as early a day as practicable, sufficient to complete the work.

The College Council, designated each year by the Convention of the University of the State of New York, has submitted to the Regents a report and recommendation of unusual importance. The detailed suggestions were arrived at unanimously, after full discussion, and if followed up officially by the Regents, they will raise still higher the educational standard, general and professional, in the Empire State.

The several recommendations are these:

1. That the law prohibiting the unauthorized use of the names college and university should hereafter be strictly enforced, and that the regents shall hereafter grant no permission to use such names in any college or university, city or town, without previous written approval of the local college or university authorities.

Note.—This rule would cover not only the unwarranted assumption of the title college or university by schools of various kinds, but also the use of the names for commercial purposes in a way to convey the impresssion to the public that there is some connection between the business and the institution. The adoption of such an ordinance will enable each college or university to protect itself by refusing its written approval against any commercial or other use of its name which might be an injury or annoyance.

2. That after January 1, 1897, no diploma shall be conferred which does not represent at least three years, and after January 1, 1900, four years, of work in advance of the elementary or grammar school.

Note.—The present law makes it a part of the duty of the Regents to maintain diploma as well as degree standards. This ordinance would rescue the diploma from being used instead of the certificate, which is a more fitting credential for courses requiring less work than the ordinary high-school course.

3. That after January 1, 1897, the degrees B. A. or A. B. and Ph. D. shall not be conferred *causa honoris*.

Note.—Many learned societies and other bodies whose opinions carry most weight have repeatedly and earnestly requested the degree-conferring bodies of America to refrain from conferring as an honorary degree either of the two standard symbols of successful completion of a full college or

university course. This rule is observed by most higher grade institutions, but is ignored, perhaps through carelessness or ignorance of the harm done to other institutions, by enough of the weaker colleges to threaten the destruction of the value of these two important degrees. The council believes that the uniform observance of this wholesome rule by the entire State will command the assent and approval even of those who have heretofore caused the criticism.

4. That after January 1, 1900, no degree shall be conferred on any candidate who has not had as a preliminary general education at least the training of a four-year high-school course or its full equivalent.

Note.—This ordinance merely makes general the rule which the legislature has established for the schools of medicine, denistry, and veterinary surgery. It does not prevent actual practice of any profession or trade, nor does it forbid short courses or meager entrance requirements; it merely compels those doing this inferior work to be contented with a certificate or diploma, unless they are willing to meet the minimum requirements for the university honor of a degree. Without such protection as the Regents have it in their power to grant, the better institutions will be seriously handicapped in maintaining proper standards, as there are never wanting those willing to degrade higher education to the methods of the shops by "cut-rate" courses which offer a short road to a degree. If thought wise by the Regents, the ordinance might leave greater freedom during the first few years by allowing the preliminary education to be made up at any time before the degree is conferred, though sound educational policy of course requires that as soon as practicable the preliminary work should be required before beginning the professional study.

5. That after January 1, 1898, the degree LL. B. shall not be conferred because of graduation from any school which does not give at least 1000 hours of actual instruction during its graduating course.

Note.—As the full academic year of 40 weeks with only five days' work out of seven and the customary three hours of instruction gives 600 hours of instruction a year, and as the better class law schools of the country now require a three-year course, the standard proposed is obviously too low and should be raised by not less than twenty per cent. for a minimum, but the adoption of the ordinance recommended will remove a just cause of serious criticism. The council would be much gratified if the Regents were willing to fix an early date after which the LL. B. degree should not be conferred on less than a three-year course, including a minimum of 1200 hours of actual instruction. The legislature has protected the medical schools by a statute requiring a four-year course for the M. D. degree. Our best law schools will be seriously crippled in their recent earnest efforts to reach a higher plane if any school in the State, much less the University itself, shall offer the same degree at much less than the minimum standard now generally adopted.

6. That the Regents adopt as their guide in classifying institutions the rule of the Court of Appeals as to what constitutes a college; adding to it the provision that an institution to be ranked as a college must have at least six professors giving their entire time to college work, with a course of four full years of college grade in liberal arts and sciences.

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Note.—The council believes it sound educational policy to encourage the establishment and maintenance of colleges wherever these minimum conditions can be met. If there can be found those willing to pay the necessary expenses, however limited the number of students may be, the council is willing to have enrolled on the list of colleges of the State any institution which will provide a four-year course in arts and sciences, with not less than six professors devoting their entire time to work of college grade. We are equally clear that only harm to educational interests can come from multiplying degree-conferring institutions. The small college follows naturally the high school, and the more widely it is scattered about the country the better for higher education; but to give college instruction is a very different matter from exercising university powers in conferring degrees. The council earnestly recommends as vitally important for protecting and promoting higher educational interests, that the Regents shall not, except in extreme cases where the most ample facilities have been provided, increase the number of institutions in this State holding degree-conferring powers. Students completing the courses in colleges newly established may obtain from the University of the State the bachelor's degree, which will be more valuable, and more widely recognized throughout the civilized world, than a degree conferred by a local institution.

7. That the Regents shall discontinue, after January 1, 1897, permission to schools of shorthand, typewriting, and similar studies to use the name business college or business university.

Note.—The council believes that an injury is done to our best business schools themselves, as well as to the colleges of the State, by allowing an indiscriminate use of these titles. If the Regents feel that a greater length of time should be given to the few really strong institutions in the State that have for a generation been using this name, they can at least set a reputable minimum standard and enforce the law on the many weak schools which are now advertising the pretentious title.

The recent action of the Aberdeen University Court in trying and disciplining a professor on charges brought by his students reminds one of the good old days at Bologna when the students were the university. The unfortunate professor was Mr. David Johnston, incumbent of the chair of Biblical Criticism at Aberdeen. The complaints made by divinity students were to the effect that Professor Johnston's treatment of his subject was unmethodical and inadequate, and that his treatment of his class was such as to make it impossible for students to give him respect. The Court found that the charge against the professor of being unmethodical has been established, and that the wants or defects of method were so great as not to afford students any reason-

able opportunity of becoming acquainted with the subject of biblical criticism. The Court regretted the disorderly conduct on the part of some of the students, for which they were censured, but found there is no foundation for the charges of conspiracy, ungodliness, want of principle, and the like brought against them. The Court, without going into the other charges, recommended that in the interest of university education Professor Johnston be required to retire from office, with a suitable retiring allowance. The report will be discussed a month hence.

One trembles to think of the decimation in American college faculties that would result from the unprejudiced trial of the charge that the treatment of the various subjects of instruction is "unmethodical and inadequate."

A well-informed and vigorous writer, signing himself "Iowa," has contributed to the *Ohio State Journal* an article on the educational situation in that State which ought to arouse a lively discussion. The writer's argument and suggestions are substantially these:

The State of Ohio is no longer a leader in education. It lags behind. This is due to politics—not party politics, but school politics—and bad management. The State university at Columbus ought to be more vigorously supported, and made in reality, as it is nominally, the head of the State educational system. The Ohio University at Athens and Miami University at Oxford are both aided by State funds, and thus, in defiance of sound policy, used to cripple the State university at Columbus. The institutions at Athens and Oxford should be turned into normal schools, and thus the reproach that Ohio has no public normal schools be removed. Politics should be driven out of the town and city school systems, and county superintendents be introduced to supervise the rural school interests.

Nothing shows more plainly the growth of a professional spirit among the teachers of the United States than the prosperity of the various university summer schools. In spite of summer heat, and the consequent difficulty of sus-

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tained intellectual labor; in spite of the natural and usually justifiable desire for a brief season of recreation and rest, after the trying work of each school year, the resort of teachers to the various summer schools has been steadily increasing for several years. The serious purposes of those who deliberately set aside a good part of the summer for work is well shown by the increase in the attendance at such summer schools as demand the whole of a student's working time for a single course during the entire session of five or six weeks. This plan of intensive study in single subjects is the plan in operation at the Harvard University Summer School, where during the summer just past the attendance numbered over six hundred students. At Harvard every means is taken to discourage a student from attempting more than a single course in a single session, and some of the instructors positively decline to admit a student to their classes if he is not willing to devote himself exclusively to one course for the summer, and, in general, no concessions as regards fees are made to students who attempt to carry more than a single course. Under such circumstances the steady increase in the number of students is a good indication of the serious purposes with which they have come to Cambridge for the summer. The most noteworthy increase in particular courses occurred this year in the courses in physiography and in education and teaching. Of the students in attendance on the latter course more than half were men, and twenty-three of them were graduates having one or more academic degrees. These facts afford fresh evidence of the growing interest that college-bred teachers, most of whom began their work without any professional training whatever, are coming to take in their profession as such, as well as in the subjects they have to teach.

The New York city Board of Education bids fair to begin its winter's work by a thoroughly characteristic performance. It has so far refused to elect a trained and experienced kindergartner as Supervisor of Kindergartens, and seems to be bent upon confirming Boss Jasper's nomina-

tion of one of his political friends and allies, Mrs. C. M. Williams, for the post. No qualifications are alleged of this lady except that she is "executive" and "a mother." These undisputed excellences might well fit her to adorn many places in the range of domestic economy, but nowhere, save in the eyes of the obscurantist majority of the New York Board of Education, would they suffice to equip her to become superintendent of the public kindergarten instruction of a metropolis. The scientific and philosophical character of the kindergarten is now so well understood, and its far-reaching educational significance is so generally admitted, that in enlightened communities only the most accomplished and highly trained women are permitted to undertake the work at all. To attempt to develop kindergartens on a high plane under the enlightened guidance of an "executive mother" is an ideal that Gilbert and Sullivan ought to immortalize in song and verse.

But the handwriting is on the wall. Mayor Strong has appointed, as a successor to the learned and self-sacrificing Hunt, Mr. Henry W. Taft, a citizen of the highest standing, a graduate of Yale, and a devoted friend of the public schools. Mr. Taft takes into the board a goodly stock of courage as well as knowledge, and it may safely be predicted that the complacency of the "ringsters" will be frequently disturbed by his questions and remarks. Mr. Taft's appointment increases the public-spirited minority in the board to eight, possibly nine, out of a total of twenty-one. If Mayor Strong makes seven similar appointments in November—and it is believed that he will—the control of the board will pass in January from Boss Jasper's men into the hands of honest, representative, and self-respecting citizens.

The newspapers, particularly the *Evening Post*, the *Tribune*, and the *Outlook*, are following up the victory of last spring by calling public attention to the present doings of the Board of Education and vigorously denouncing its short-comings. This is in itself a sign of much promise. Then, too, the more sensational journals are helping to make things lively by vigorously denouncing everybody connected with the schools for the shamefully insufficient

accommodation. All this tends to attract attention to as incompetent a set of men as ever controlled a public board of any kind.

The work of the Greater New York Commission will be closely followed by the school reformers. The presence of President Low upon the Commission is in itself an assurance that none of the ground gained last winter will be lost. It remains also to break up the "local committee" system in Brooklyn. This system has been made possible by the unwieldy size of the Brooklyn Board of Education, and it is nearly as bad as the old New York ward-trustee system was. The excellent Advisory Commission appointed by Mayor Schieren in 1894 went over all the ground as to Brooklyn thoroughly, and their recommendations will certainly have great weight with the gentlemen who are drawing the Greater New York charter.

Mr. E. D. Shimer, who leaves his classroom in grammar school No. 20 to take a place on the New York Board of School Superintendents, has gained a good reputation as a student and teacher. If he shall develop directive ability and an independence that will lift him above the pettifogging and wire-pulling of the present *régime*, he may accomplish much for the schools.

Mr. Halsey, formerly of Oshkosh, who comes to the superintendency of schools at Binghamton, will be a welcome addition to the educational forces of the Empire State.

The executive committee of the N. E. A. has visited Detroit, Milwaukee, and Minneapolis, but its decision as to the place of meeting in 1897 has not yet been announced. When made, the selection will be gladly acquiesced in by everyone; for the history of the past proves that the choice is always made with the best of judgment and with an eye single to a successful meeting.